

Crestron **CLS-C6RF**

iLux™ Integrated Lighting System

w/infiNET™

Operations Guide



This document was prepared and written by the Technical Documentation department at:



Crestron Electronics, Inc.
15 Volvo Drive
Rockleigh, NJ 07647
1-888-CRESTRON

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iLux™ Integrated Lighting System w/infiNET™ : CLS-C6RF

Introduction

Features and Functions

- Wall-mounted integrated lighting and shade control
- Six channels of dimming or switching
- Six groups of shade or drape control
- Linkable for up to 54 lighting channels and 54 shade groups
- Up to 16 user-settable scenes | Large **ON** and **OFF** buttons
- Seven configurable “rocker” buttons with customizable label strip
- Flip-up front cover reveals setup controls and programming port
- Six bargraphs show lighting levels and shade positions
- Easy setup from front panel or iLux Designer software
- Built-in motion detector (CLS/CLSI-C6MRF)
- Optional IR remote
- Supports multipoint control using up to 16 keypads
- Master air-gap relay | 230V AC version available
- Integrates with 2-Series control systems via infiNET™ RF wireless technology
- Energy saving ASHRAE 90.1/LEEDS compliant
- Available in almond, black, or white

The CLS-C6RF series of iLux™ units are complete, integrated wall-mounted lighting systems that can function as standalone devices and/or be part of a Crestron® solution total control system network. The units are intended for installation in boardrooms, auditoriums, home theaters, or anywhere versatile and cost-effective control of lighting and shades is required. The CLS-C6RF and CLS-C6MRF are

designed for 120 VAC 50/60 Hz installations; the CLSI-C6RF and CLSI-C6MRF are designed for 230 VAC 50/60 Hz installations. The units are functionally identical, except that the CLS/CLSI-C6MRF units include a built-in motion sensor. For simplicity in this guide, references to the CLS-C6RF unit apply equally to all, except where noted.

Six Channel Dimming

The CLS-C6RF features six channels of dimming for incandescent, magnetic low-voltage, neon/cold cathode, and two-wire dimmable fluorescent loads. Each channel can also support switching of many non-dimmable lighting loads. Each channel will handle up to 800 watts individually, with a total rating for the complete unit of 1920 watts at 120 VAC for CLS-C6RF/C6MRF (2300 watts at 230 VAC for CLSI-C6RF/C6MRF). Larger loads and additional load types can also be supported using Crestron CLS-EXP Series expansion modules (sold separately).

Six Group Shade Control

Using Crestron's networked shade and drape controllers (sold separately), the CLS-C6RF enables versatile control of a roomful of motorized window treatments, screens, and lifts in up to six shade groups. Each controller is connected to the CLS-C6RF via the four-wire Cresnet® bus.

Versatile Front Panel Controls

The deceptively clean front panel actually affords an extensive amount of control and customization to suit each unique room application. Large **ON** and **OFF** buttons provide instant access to the "On" and "All Off" scenes, while the six main buttons can be set up to recall additional scene presets, adjust shades, or perform a host of other functions. The buttons' "rocker" action enables intuitive control for adjusting lighting levels and shade positions. An additional "up/down" button is configurable for a variety of functions, including use as a master lighting or shade control, or as a "shift" button to expand the capabilities of the six main buttons.

With each new scene selection, window shades reposition and lights fade elegantly to their new settings. The selected scene is indicated by a white LED beside each button, and the customizable label strip allows each button to be clearly labeled using Crestron Engraver software or standard 3/8" tape labels. Dimming levels and shade positions are displayed graphically on six green LED bargraphs accessible behind the flip-up front cover. Additional controls and a numeric display hidden beneath the cover enable setup without requiring a PC. Enhanced customization is provided via the PC programming port using iLux Designer software.

Built-in Motion Detector (CLS/CLSI-C6MRF)

The CLS/CLSI-C6MRF model features a built-in motion detector, enabling automated control based on room occupancy. Lights can be programmed to turn on and shades open automatically when someone enters the room, or turn off and close when the room is left empty.

Multipoint Keypad Control

Up to 16 Crestron keypads (sold separately) may be connected to a single CLS-C6RF, providing versatile multipoint control for rooms with several entrances or work areas.

Multi-Unit Expansion

A single CLS-C6RF master will support up to eight additional units, enabling systems of up to 54 lighting zones and 54 shade groups. Scene recall, master dimming, and occupancy status are shared between the units. Each individual unit can still support a complete assortment of local devices including keypads, shade controllers, and sensors.

Control System Integration via infiNET™

The CLS-C6RF employs Crestron's infiNET technology to enable a wireless link to a 2-Series control system. A single C2N-MNETGW gateway (sold separately) connected to the control system enables 2-way wireless communications between the iLux system and the central control system, allowing iLux's functions to be controlled from touchpanels, RF wireless remotes, and even computers. The control system interface also enables extensive flexibility for integration with other systems such as security, HVAC and energy management, plus remote monitoring via SNMP and Crestron RoomView® applications.

Several infiNET-based iLux systems can coexist on one infiNET wireless network along with other infiNET dimmers, switches, and thermostats. For a solution using a wired Cresnet connection instead of infiNET, use the CLS/CLSI-C6/C6M.

Available Models

MODEL	DESCRIPTION
CLS/CLSI-C6RFA	iLux Integrated Lighting System w/infiNET™, Almond
CLS/CLSI-C6RFB	iLux Integrated Lighting System w/infiNET™, Black
CLS/CLSI-C6RFW	iLux Integrated Lighting System w/infiNET™, White
CLS/CLSI-C6MRFA	iLux Integrated Lighting System w/Motion Detector & infiNET™, Almond
CLS/CLSI-C6MRFB	iLux Integrated Lighting System w/Motion Detector & infiNET™, Black
CLS/CLSI-C6MRFW	iLux Integrated Lighting System w/Motion Detector & infiNET™, White

Specifications

The following table provides specifications for the CLS-C6RF.

CLS-C6RF Specifications

SPECIFICATION	DETAILS
Load Ratings CLS-C6RF/C6MRF Max load per channel: Min load per channel Max load per unit: CLSI-C6RF/C6MRF Max load per channel: Min load per channel Max load per unit:	800 W/VA (6.6 Amps @ 120 VAC) ¹ 15 W/VA (0.125 Amps @ 120 VAC) 1920 W/VA (16 Amps @ 120 VAC) 800 W/VA (3.5 Amps @ 230 VAC) ¹ 25 W/VA (0.108 Amps @ 230 VAC) 2200 W/VA (10 Amps @ 220 VAC) 2300 W/VA (10 Amps @ 230 VAC) 2400 W/VA (10 Amps @ 240 VAC)
Load Types	Incandescent, magnetic low voltage, neon/cold cathode, dimmable 2-wire fluorescent, and non-dim lighting (also: electronic low voltage, 3-wire and 4-wire fluorescent, high inrush switching, & 277V via CLS-EXP Series expansion modules ¹)

(Continued on following page)

CLS-C6RF Specifications (Continued)

SPECIFICATION	DETAILS
Power Requirements	CLS-C6RF Line Power, 100 –127 VAC, 50 / 60Hz CLSI-C6RF Line Power, 220 – 240 VAC, 50 / 60Hz
Default MNET ID	1F
Control System Update Files ^{2,3} 2-Series Control System	Version 2.004.CUZ or later
IR Receiver Reception Frequency	36 kHz Requires Crestron IR remote (sold separately).
RF Wireless RF Transceiver Range (typical) Gateway	2-way RF, 2.4 GHz ISM Channels 11-26 (2400 to 2483.6 MHz), IEEE 802.15.4 compliant 150 feet indoor, 250 feet outdoor; subject to site-specific conditions; range is increased by adding additional devices or C2NI-MNETRPT repeater; Requires a C2N-MNETGW RF gateway
Motion Detector (CLS/CLSI-C6MRF only) Type Range	Infrared 20 to 30 feet at 4-foot elevation (6 to 9 meters at 1.2 meter elevation)
Firmware	clsi-c6_clsi-c6m_1.01.02.upg or later
Environmental Temperature	32° to 104°F (0° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Overall Dimensions: Height Width Depth	4.48 in (11.38 cm) 8.89 in (22.58 cm) 2.47 in (6.25 cm) for CLS/CLSI-C6RF 2.60 in (6.61 cm) for CLS/CLSI-C6MRF
Weight	1.43 lbs (0.65 kg)
Available Accessories C2N-DB C2N-MNETGW C2N-MNETRPT C2N-SDC C2N-SDC-DC C2N-SSC-2 C2NX-B CLS-EXP-DIM CLS-EXP-DIMFDB CLS-EXP-DIMFLV CLS-EXP-DIMU CLS-IRHT8 CNPWS-75	Decorator Series Keypad infiNET Gateway infiNET Repeater Shade and Drape Controller (120V AC) Shade and Drape Controller (24V DC) Somfy® Shade Controller Designer Series Keypad iLux Dimmer Expansion Module iLux 3-Wire Fluorescent Dimmer Expansion Module iLux 0-10V Fluorescent Dimmer Expansion Module iLux Universal Dimmer Expansion Module iLux IR Handheld Remote Cresnet Power Supply

1. Larger loads and additional load types can also be supported using Crestron CLS-EXP Series expansion modules (sold separately).
2. The latest versions can be obtained from the Crestron website. Refer to NOTE after last footnote.
3. Crestron 2-Series control systems include the AV2 and PRO2. Consult the latest Crestron Product Catalog for a complete list of 2-Series control systems.

NOTE: Crestron software and any files on the website are for Authorized Crestron dealers and Crestron Authorized Independent Programmers (CAIP) only. New users may be required to register to obtain access to certain areas of the site (including the FTP site).

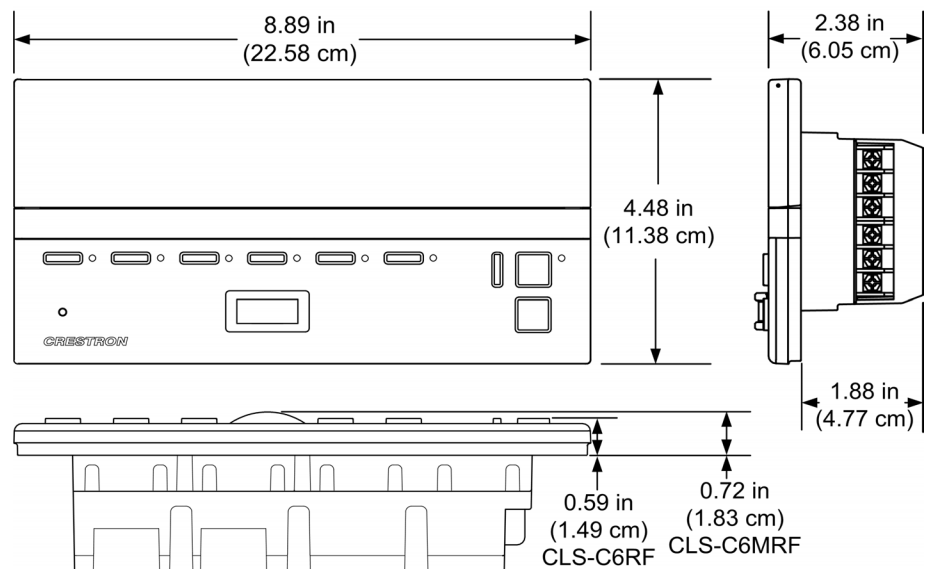
Physical Description

All controls and indicators for the CLS-C6RF are located on the front of the unit. The front panel also contains a mini phone jack, under the flip-up cover, used for programming functions, and an IR port for control via an IR remote device. All other ports and connectors are located on the rear panel. Refer to the table “Connectors, Controls, & Indicators” on page 6 for details.

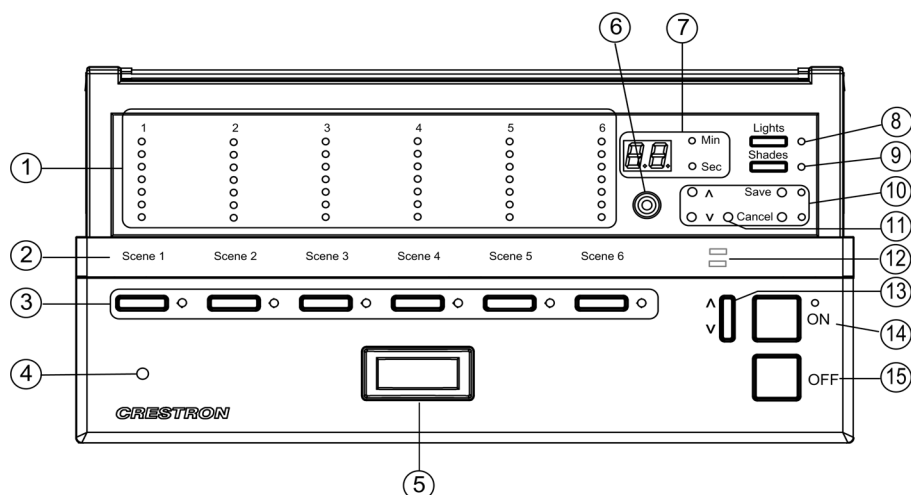
CLS-C6RF (Cover Open)



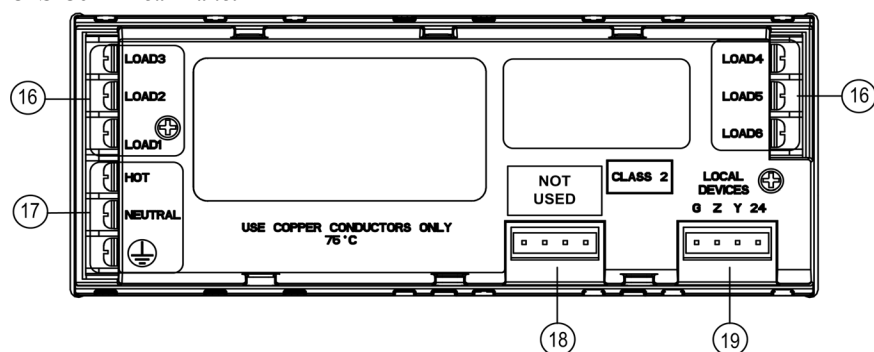
CLS-C6RF Overall Dimensions



CLS-C6RF Front Panel



CLS-C6RF Rear Panel



Connectors, Controls, & Indicators

#	CONNECTORS, CONTROLS, & INDICATORS	DESCRIPTION
1	Bargraphs	In <i>Standard</i> mode and <i>Lights</i> mode, the bargraphs, each a series of seven LEDs, indicate the current light intensity for the six lighting loads. In <i>Shades</i> mode, they indicate the shade position for each of the shade groups. The bargraphs have other functions in <i>Setup</i> mode.
2	Label Strip	Customizable label for the six scenes.
3	Function Buttons and LEDs	In <i>Standard</i> mode, these buttons are typically used to select/recall scenes. In <i>Lights</i> mode, they are used to make temporary adjustments to the six lighting loads. In <i>Shades</i> mode they are used to make temporary adjustments to the shade groups. They can also be programmed to perform other functions.
4	IR Detector	The IR detector responds to commands from the optional Crestron remote control. The remote control can be used to recall Scenes 1 – 4, the On and Off scenes, and perform master raise and lower of the lighting loads.


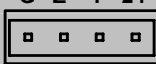
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Connectors, Controls, & Indicators (Continued)

#	CONNECTORS, CONTROLS, & INDICATORS	DESCRIPTION
5	Motion Detector (CLS/CLSI-C6MRF only)	The built-in motion detector can be used to activate a particular scene when there is activity in the room, and/or to activate a particular scene (typically Off) when there is no activity for a specified period. A limited number of actions are available when programmed locally; more are available using the iLux Designer software program.
6	Mini Phone Jack	Use this 3.5mm TRS mini-phone jack, located on the front panel, as an RS-232 programming port, to communicate with the iLux Designer and Crestron Toolbox™ to configure the unit, and to upgrade the unit's firmware.
7	Two-Digit Display	In <i>Standard</i> mode, the display is normally blank, except when showing scene fade time. The Min and Sec LEDs illuminate when the display is indicating time in minutes or in seconds, respectively. In <i>Setup</i> mode, the display uses a two-character mnemonic to indicate which specific aspect of the CLS-C6RF you are changing. As these are being adjusted, the display may indicate values. (Refer to "Setup Mode" on page 13 for details.)
8	Lights Pushbutton and LED	Use this switch to select the <i>Lights</i> mode. The LED illuminates when the mode is selected. Refer to "Lights Mode" on page 36 for details.
9	Shades Pushbutton and LED	Use this switch to select the <i>Shades</i> mode. The LED illuminates when the mode is selected. Refer to "Shades mode" on page 37 for details.
10	^, v, Save, and Cancel Pushbuttons	Use these pushbuttons to navigate and execute setup functions. The Save and Cancel LEDs indicate when these functions are active. Refer to "Setup Mode" on page 13 for details.
11	Reset Button	If the unit stops functioning and does not respond to button pushes, use a thin object such as a paperclip to activate this switch. The unit reboots (all lighting loads go off, the two-digit display shows "—", and all lighting loads go to their previous state).
12	Shift LEDs	These LEDs are covered by the label strip, but are easily visible through the strip when they are illuminated. When the <i>Shift</i> mode is enabled via programming, there can be two functions defined for each of the six function buttons. The unit will always be in "upper" or "lower" shift mode as indicated by the state of the LEDs.
13	Up/Down Pushbutton	This three position "rocker" switch is programmable for master lights control (all lights or last scene), master shade control, or as a "shift" button to allow a second set of functions for the six function buttons.
14	ON Button	The ON button always acts as a recall scene button for the "On" scene. Refer to "Standard mode" on page 33 for details.
15	OFF Button	The OFF button always acts as a recall scene button for the Off scene, which will always turn all lighting loads off and open the air-gap relay. Refer to "Standard mode" on page 33 for details.

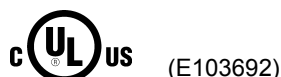
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Connectors, Controls, & Indicators (Continued)

#	CONNECTORS, CONTROLS, & INDICATORS	DESCRIPTION
16	LOAD1 – LOAD6	Use these terminals to connect the CLS-C6RF dimmer channel outputs to the appropriate lighting loads.
17	HOT, NEUTRAL  (Ground)	Use these terminals to connect the unit to the 120V (CLS-C6RF/MRF) or 230V (CLSI-C6RF/MRF) AC power source.
18	NOT USED	This 4-pin terminal block is not used on the CLS/CLSI-C6RF & CLS/CLSI-C6MRF.
19	LOCAL DEVICES G Z Y 24 	Use this 4-pin terminal block to connect the CLS-C6RF, using standard Cresnet wiring, to local devices. In this configuration, the CLS-C6RF acts as the Cresnet Master.

Industry Compliance

This product is listed to applicable UL Standards and requirements by Underwriters Laboratories Inc.



As of the date of manufacture, the CLS-C6RF has been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling.



NOTE: This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Setup

Network Wiring

When wiring the network, consider the following:

- Use Crestron Certified Wire.
- Use Crestron power supplies for Crestron equipment.
- Provide sufficient power to the system.

CAUTION: Insufficient power can lead to unpredictable results or damage to the equipment. Please use the Crestron Power Calculator to help calculate how much power is needed for the system (<http://www.crestron.com/calculators>).

- For larger networks, Use a Cresnet Hub/Repeater (CNXHUB) to maintain signal quality.

For more details, refer to “Check Network Wiring” on page 39.

Identity Code

The MNET ID of the CLS-C6RF has been factory set to **1F**. After an infiNET device is added to an infiNET network, its MNET ID must be changed to a value that can be addressed by the control system program (03 to 20). The MNET IDs of multiple CLS-C6RF devices in the same system must be unique. MNET IDs are changed from a personal computer (PC) via the Crestron Toolbox™ or iLux Designer software programs. (Refer to “Establishing Communication” on page 31)

When setting the MNET ID, consider the following:

- The MNET ID of each unit must match an ID code specified in the SIMPL Windows or D3 Pro™/Crestron SystemBuilder™ program..
- Each network device on the same gateway must have a unique MNET ID.

For more details, refer to the Crestron Toolbox or iLux Designer help files.

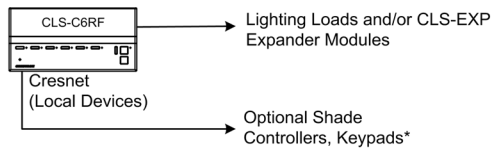
Installation

Detailed installation procedures are provided in the latest version of the Crestron iLux Lighting Systems Installation Guide (Doc. 6416 for CLS-C6RF/C6MRF; Doc. 6417 for CLSI-C6RF/C6MRF).

The figure on the following page illustrates five installation configurations and includes brief descriptions of the rationale behind each one.

NOTE: The power usage requirements on the local devices network is different from that described above. The CLS-C6RF provides 24VDC power for up to four keypads and/or shade controllers on the local devices network. An additional power supply is required to support more than four devices. Also, each C2N-SDC-DC shade controller requires its own additional power supply.

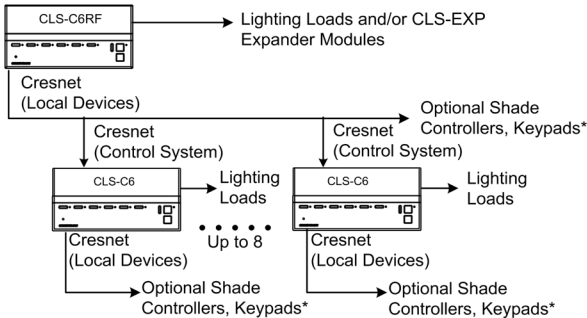
CLS-C6RF Installation Configurations



Method 1: Standalone CLS-C6RF

Why? Simplest way to control up to six lighting loads (or more when using CLS-EXPs) and six shade control groups.

No control system required.

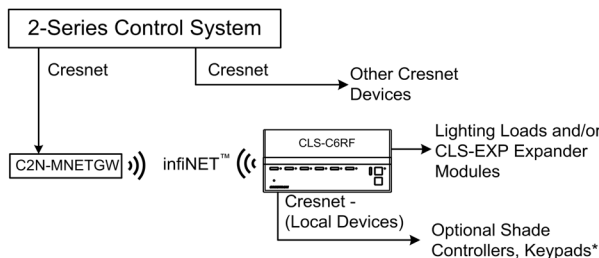


Method 2: Primary CLS-C6RF with multiple secondary CLS-C6s.

Why? Large room with more than six individually controlled lighting loads and/or shade groups.

No control system required.

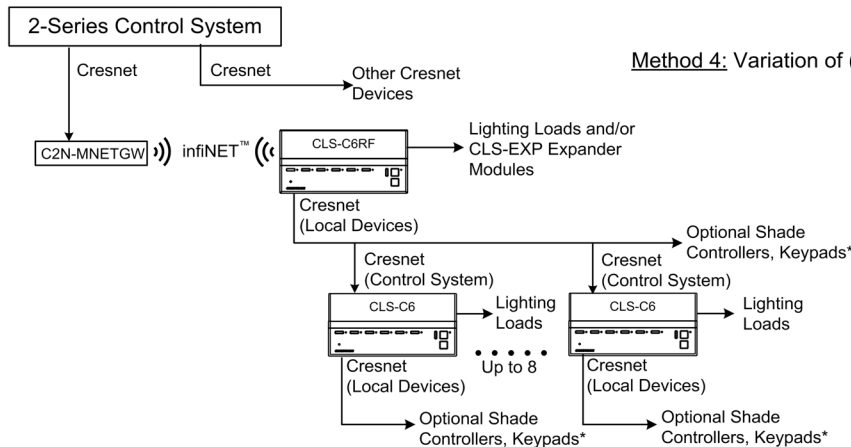
Scene recall and master dimmers affect entire room. Can still adjust each circuit individually.



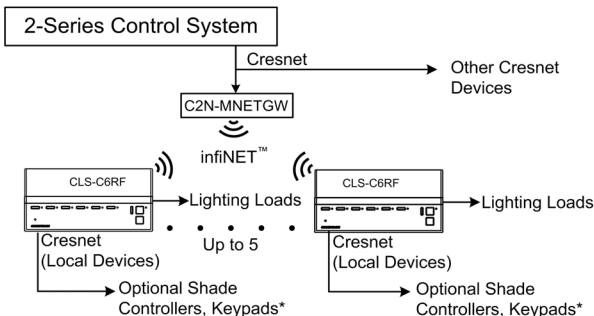
Method 3: Same as (1) plus a 2-Series control system communicating to the CLS-C6RF via C2N-MNETGW gateway using infiNET™.

Why? Control system can control and monitor operation of the lighting system. Can trigger lighting scenes from touchpanels, RF wireless remotes, computers, or real-time clock. Buttons on lighting system can control other functions.

Lighting system will still operate on its own if the control system is not running.



Method 4: Variation of (3), but for a large room.




Method 5: 2-Series control system with multiple CLS-C6RFs on main infiNET™ network.

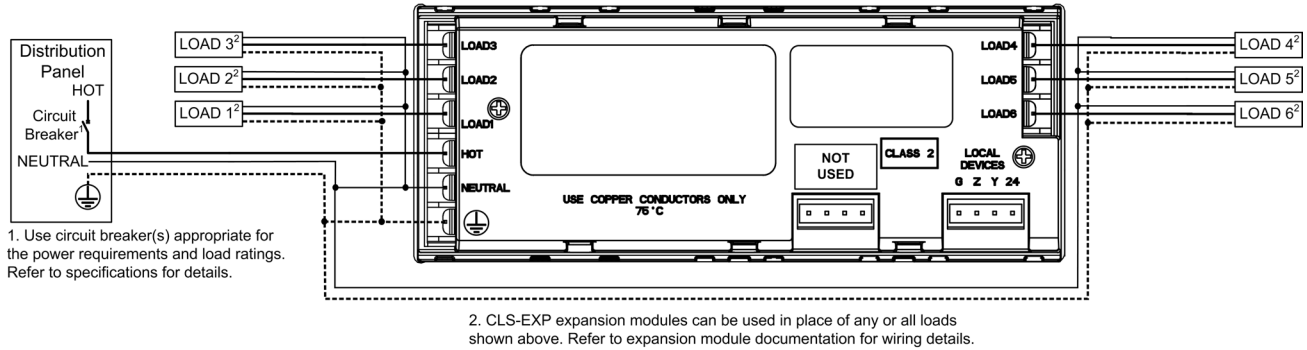
Why? Monitor and control lighting in multiple independent rooms. Combine rooms in any arrangement under program control

Includes all features of other configurations. Each individual CLS-C6RF system can operate without a control system.

* Refer to "Appendix A: Supported Devices" on page 42 for details on devices supported by the CLS-C6RF.

Hardware Hookup

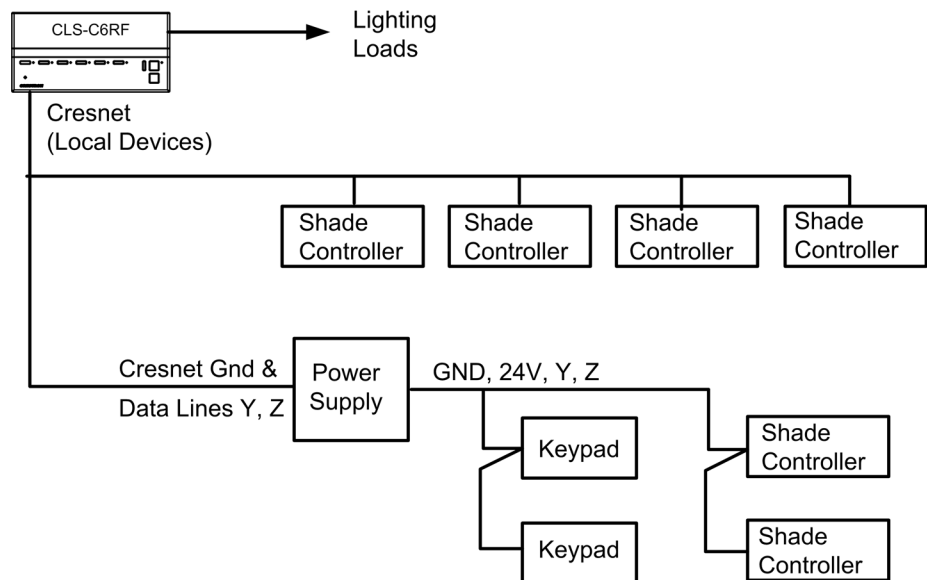
Refer to the following diagram for connection of the AC wiring. Connect each load wire to the corresponding LOAD terminals on the unit, connect the power line hot wire from the circuit breaker to the HOT terminal on the unit, connect all neutral wires to the NEUTRAL terminal on the unit, and connect all ground wires to the  (ground) terminal on the unit. For details, refer to the iLux Lighting System Installation Guide, Doc. 6416 for CLS-C6RF/C6MRF units, and Doc. 6417, for CLSI-C6RF/C6MRF units.



Refer to the configuration diagram on the previous page for typical connections to the **LOCAL DEVICES** connector.

Adding External Power Supplies

Additional power supplies are required to support more than four keypads or shade controllers on the **local devices** network. Also, each C2N-SDC-DC shade controller requires its own additional power supply. The following diagram illustrates a scenario where an external power supply is required to add keypads and shade controllers to a network that already contains four shade controllers. The actual quantity of external power supplies required depends on your system configuration.



Configuring the CLS-C6RF

The overall configuration of the CLS-C6RF can be accomplished in two ways: using the front panel controls, or using the supplied iLux™ Designer application software, which can be downloaded from the Crestron website.

Configuring via the front panel controls is not as extensive as what can be done using the iLux Designer, but permits basic functional setup without having to use a PC.

In addition, some aspects of the CLS-C6's operation can be modified only via certain Crestron Toolbox console commands. (Refer to “Console Command Settings” on page 25 for details. Refer also to “Appendix B: Console Commands” on page 43 for details on all applicable console commands.)

NOTE: Toolbox does not distinguish between the CLS-C6RF and CLSI-C6RF devices. All report as CLS units.

Configuring With Front Panel Controls

You can make temporary changes to accommodate a particular circumstance, or change scene presets and replace the originals, as described below. To make more extensive changes in the configuration of the CLS-C6RF without using the iLux Designer software, use the *Setup Mode*, as described beginning on page 13.

Temporary Changes/Adjustments

Temporary changes/adjustments to the lighting levels or shade presets can be accomplished as discussed in “*Lights Mode*” on page 36 and “*Shades Mode*” on page 37.

Changing Scene Presets

The CLS-C6RF scene settings can be modified via the front panel controls without having to use a PC. Changes to the lighting load levels and shade presets for one or more scenes can be accomplished as follows:

NOTE: The iLux Designer or SIMPL programs can lock a scene to prevent it from being changed using the front panel controls. If the selected scene is “locked” in the configuration, when you try to make any adjustment, “Er” will display for three seconds, and the scene will remain in its existing state.

1. In *Standard* mode, press the function button of the scene you wish to modify and hold it for five seconds. (Make sure you press the center of the button so both sides make contact.)
2. The two-digit display will first count down as the lighting loads fade to their preset levels for that scene; it will then begin flashing between **Sc.** and the scene number; the **Lights** LED will be lit, and the **Save** and **Cancel** LEDs will flash.
3. Use the six function buttons to adjust the levels of the lighting loads for that scene. Press the left side of the buttons to lower the lighting loads; press the right side of the buttons to raise the lighting loads.

4. If you would like a certain lighting load to be unaffected by that scene recall, press and hold the center of the button (so both sides make contact) for three seconds. The top two and the bottom two LEDs of the associated bargraph will be lit (and the display will show - -) to indicate that the level of the lighting load will not change when that scene is recalled.
5. To change the shade presets for that scene press the **Shades** button; the **Shades** LED will be lit.
6. Use the six function buttons to adjust the levels of the shade groups for that scene. Press the right side to raise the shades; press the left side to lower them. While the shades are moving, press any part of the button to stop. Note that for shades that are not “presettable,” only full open or full closed positions can be recalled as part of a scene.
7. If you would like a certain shade group to be unaffected by that scene recall, press and hold the center of the button (so both side make contact) for three seconds. The top two and the bottom two LEDs of the associated bargraph will be lit (and the display will show - -) to indicate that the level of that shade group will not change when that scene is recalled.
8. To adjust the fade time, press the **^** and **v** buttons. When going up, the value will go from 0 seconds to 59 seconds, and then 1 minute to 99 minutes. When going down, the value will go from 99 minutes to 1 minute, and then 59 seconds to 0 seconds. The **Min** and **Sec** LEDs light as appropriate. Adjustment to fade time can be made when either *Lights* mode or *Shades* mode is active.
9. When all the lighting loads are at the desired level and shades are at the desired position, press **Save** to save these settings as the new preset for that scene. If you make a mistake while changing a setting, press **Cancel** to discard changes and return to *Standard* mode before pressing **Save**.
10. Repeat the above procedures for all scenes that require changes.

Setup Mode

The Setup mode is used to change internal settings on the CLS-C6RF, including the scene presets as discussed in the previous paragraph.

- To enter *Setup* mode, press and hold the **Save** and **Cancel** buttons for five seconds. The **Cancel** button LED will blink, and the first setup option (**Sc**) will be displayed, to indicate that the unit is now in *Setup* mode.

Note that while scrolling through the list of setup options, before an option is “locked”, the **Save** button is not functional and its LED is off. However, the **Cancel** button LED will blink - since the button can be pressed to return the unit to *Standard* mode.

- If the unit is connected to a Cresnet control system and you are in the process of adjusting scene settings, you cannot enter *Setup* mode.
- When the unit is in *Setup* mode, the two-digit display uses a two-character mnemonic to indicate which specific aspect of the CLS-C6RF you are changing. As these are being adjusted, the display may indicate values. The following is a list of the different *Setup* modes, and the corresponding mnemonic codes.

Setup Mode Mnemonics

TWO-DIGIT DISPLAY	DESCRIPTION
Sc	Scene Programming
Ld	Setup lighting load L oad types
LE	Setup lighting load L ow- E nd limits
HE	Setup lighting load H igh- E nd limits
bF	b utton F unctions (i.e. recall scene, toggle scene, shades control, etc.)
ud	Set function of u p/ d own button
oc	Setup o ccupancy Sensing
Ad	Run A uto- d iscovery
AS	A ssign S hade groups
id	Display or set the MNET i d of this unit
Ac	Acquire gateway
UA	U n A cquire Gateway
Ch	Display or set the RF C hannel
Fd	Restore F actory d efault
Er	E rror

- Press the **^** or **v** buttons to scroll through this list of available setup options. Once the desired setup option appears in the display, use the various buttons on the CLS-C6RF to make adjustments, as described on the following pages.
- Once any adjustment is made, *Setup* mode is now “locked” into that particular option (this is indicated by lighting the period at the end of the mnemonic). Once locked in an option, the **^** and **v** buttons will no longer scroll through the options; you must exit setup before you can choose another option.

When the adjustments are complete, press **Save** to store the changes permanently, and exit *Setup* mode, or press **Cancel** to exit *Setup* mode without saving the changes. The unit reverts to *Standard* mode.

Scene Programming (Sc)

This setup option allows the user to adjust the scene parameters. This is another way to accomplish scene changes as discussed in “Changing Scene Presets” on page 12. This method also allows you to change the settings for scenes greater than scene 6.

Scenes can be turned off in addition to being recalled. When a scene is turned off, only the lighting loads are turned off. If the scene contains any shades, they are not affected. The fade time for turning the scene lights off is the same as for recalling the scene. Therefore, no additional parameters need to be set to define the off behavior.

Select the scene to be changed using the up/down button. As you cycle through the list of scenes, the lights and shades will not change, and the bargraphs will be off.

Set the lighting loads and shade positions for the scenes as discussed in “Changing Scene Presets” on page 12. As you set the scenes, note the following:

- When a lighting load reaches the HE (high end) limit, the lights will stop. The two-digit display will continue to rise. If lights reach the LE (low end) limit, the two-digit display will continue to go down, but lights will stay at the LE limit until they reach Off—at which point they will turn off. If you save the scene setting while the display is at a level below the LE limit, or above the HE limit, the displayed value will be saved, but the light level will be limited to the programmed limits.

- If a lighting load is defined as an “unused” load type, the bargraph for that lighting load will have all LEDs off. If you try to adjust that lighting load, the two-digit display will show “Er.”
- To mark a lighting load as “not affected” (i.e., the lighting load’s current state will not be changed by recalling the scene), press and hold the center of the corresponding button for three seconds. Adjustments made to such lighting loads will cancel the “not affected” condition, and start adjusting from the current light level.
- While adjustments are being made to the lights or shades, the two-digit display will show the level, just like in *Manual* mode. The level for loads that are not affected will be shown as “—.” In *Manual* mode, the display goes blank after three seconds; in this mode, it returns to the “Sc. ##” display.
- For SDC (or SDC-DC) shades, when you press the left or right side of the button, the two-digit display will immediately show full open or full closed as soon as the shade starts moving, and the preset will be set to this full open or closed position even if the shade is stopped before reaching the full open or full close position.
- The iLux Designer or SIMPL programs can lock a scene to prevent it from being changed using the front panel controls. If the selected scene is “locked” in the configuration, when you try to make any adjustment, “Er” will display for three seconds, and the scene will remain in its existing state.
- To adjust the fade time, while “Sc. ##” is displayed, press the **▲** and **▼** buttons to adjust the time. The first time a button is pressed, current fade time will be shown, but not changed. Subsequent presses will change the displayed value. Adjustment to fade time can be made when either *Lights* mode or *Shades* mode is active.

When going up, the value will go from 0 seconds to 59 seconds, and then one minute to 99 minutes. When going down, the value will go from 99 minutes to one minute, and then 59 seconds to 0 seconds.

- To save/cancel levels, press the **Save** button to save the new values and return to *Standard* mode. Press the **Cancel** button to return to *Standard* mode without saving – old scene parameters will be remembered.

Setup Lighting Load Types (Ld)

To set the load types for each lighting load, first enter *Setup* mode and scroll to the “Ld” option. The bargraphs immediately indicate the currently selected load type for each lighting load. Use the function buttons to change the load type, each load type indicated by a pattern of bargraph segments and a number on the two-digit display, as shown in the following table. Press the right and left side of the buttons to cycle through the available load types.

Lighting Load Type Setup

Load Type	Number	LEDs	Default LowEnd / HighEnd
Unused	0	all off	0 / 100
Incandescent – default	1	top 1 on	0 / 100
MLV	2	top 2 on	0 / 100
NCC	3	top 3 on	0 / 100

(Continued on following page)

Lighting Load Type Setup (Continued)

Load Type	Number	LEDs	Default LowEnd / HighEnd
Fluorescent (2-wire)	4	top 4 on	10 / 100
Non-dim (On at start/Off at start) ¹	5	top 5 on	0 / 100
Non-dim (On at end/Off at start) ²	6	top 6 on	0 / 100

- Whether going on or off, this load type will switch at the start of the fade.
- If going off, this load type will switch at the start of the fade; if going on, it will switch at the end.

NOTE: When using an expansion module for dimmed loads, choose the Incandescent load type; for non-dimmed loads, choose Non-dim.

NOTE: For some expansion modules, low-end levels can be set either on the iLux unit or directly on the expansion module.

- When changing the load type using the rocker buttons, the two-digit display will change to reflect the current load type. It will show “L#.” where # is the number from the table above. Whenever the two-digit display is showing a load type, the corresponding front panel LED is lit.
- During adjustment of this value, the lights will not change. If setup is exited without pressing the **Save** button, the original values will be retained. When the **Save** button is pressed, *Setup* mode will be exited, the new values will be saved, and the lights will be updated to reflect the new curve type.

If the load type was changed, the LE and HE limits are automatically changed to the default value for the new load type, listed in the above table.

Setup Low-End Levels (LE)

Some lights can flicker at very low levels. To avoid this, you can specify the low-end limit accordingly. Whenever you try to adjust lights to a level below this value, they will stay at the low-end limit until they are turned off. To set the low-end levels for the six lighting loads:

- First enter *Setup* mode and scroll to the “LE” option (using the **▲** and **▼** buttons). At this point the lights will not change, but the bargraphs should immediately indicate the low-end levels for each lighting load. (In most cases this will be 0%, which is indicated by all bargraph segments being off.) To set the low-end level, use the rocker button corresponding to that lighting load to adjust the level up or down. When the first adjustment is made, the light being adjusted will jump to the current low-end level, and start adjusting from there.
- The low-end level cannot be adjusted above 33%.
- Note that for non-dim and “unused” lighting loads, the low-end level cannot be adjusted (always at 0%). If you try to adjust this, the light and bargraph will not change, and the two-digit display will show “Er.” to indicate an error.

If setup is exited without pressing the **Save** button, the original values will be retained. For lighting loads where adjustment has been made, lights will jump to the original low-end level. Light levels will not change on lighting loads where no adjustment was made. When the **Save** button is pressed, *Setup* mode will be exited, the new values will be saved, and the lights will not change.

Setup High-End Levels (HE)

This option allows you to set the “full on” level of the lighting loads below their maximum brightness. To set the high-end levels for the six lighting loads:

- Enter *Setup* mode and scroll to the “HE” option (using the **▲** and **▼** buttons). At this point the lights will not change, but the bargraphs immediately indicate the high-end levels for each lighting load. (In most cases this will be 100%, which is indicated by all bargraph segments being on.)
- To set the high-end level, use the rocker button corresponding to that lighting load to adjust it up or down. When the first adjustment is made, the light being adjusted will jump to the current high-end level, and start adjusting from there. As adjustments are made, the current light level for the lighting load being adjusted should appear in the bargraph and the two-digit display.
- The high-end level cannot be adjusted below 67%.
- Note that for non-dim and “unused” lighting loads, the high-end level cannot be adjusted (always at 100%). If you try to adjust this, the light and bargraph will not change, and the two-digit display will show “Er” to indicate an error.

If setup is exited without pressing the **Save** button, the original values will be retained. For lighting loads where adjustment has been made, lights will jump to the original high-end level. Light levels will not change on lighting loads where no adjustment was made. When the **Save** button is pressed, *Setup* mode will be exited, the new values will be saved, and the lights will not change.

Setup Button Functions (bF)

This *Setup* mode is used to define the behavior of the buttons on the CLS-C6RF unit itself, and on remote keypads if you want behavior other than the default. (Remote keypads must be ID'd, using auto-discovery, prior to this, which will set them to their default functions.) To enter this mode:

- First enter *Setup* mode and scroll to the “bF” option (using the **▲** and **▼** buttons). Then use the up/down button to scroll through the available button functions and values. This will scroll through all values for each function before proceeding to the next function.
- If you press and hold the button, it will auto repeat. During auto-repeating, when it reaches the minimum or maximum value for that function, it will stop. The next button push will then increment/decrement to the next function.

A available functions and values are as shown in the following table. (Other functions require a PC with iLux Designer software to configure them.)

BUTTON FUNCTION	CODE	POSSIBLE VALUES
Recall Scene	F1	oF,on,1-15
Toggle Scene	F2	on,1-15
Control Shade (open/stop/close/stop)	F3	AL, 1-6
Master Raise/Lower (last scene)	F4	uP, dn, ud (rockers only)

1. To assign a function to a certain button or buttons, first scroll to the desired function and value. Then, press each appropriate function button or remote button to assign the displayed function and value to that button.

When the button is released, the LED for that button should flash once to indicate that programming took place.

2. Next, use the up/down button to scroll to the next function and value to be assigned, and assign the desired buttons. Repeat this procedure for each function and value to be assigned.
 3. After assigning all button functions, press **Save**, and the button function information will be saved. If you press **Cancel**, or exit by some other mechanism (e.g., timeout), the state will return to what it was before you entered *Setup* mode.
- Note that the **ON** and **OFF** buttons on the CLS-C6RF cannot be programmed. The operation of the up/down button is programmed using the “ud” setup function.
 - If you try to program an illegal button (e.g., the **ON** button, or program a remote keypad button as master raise/lower-up/down), LED will flash on three times to indicate that setting did not take place, and the two-digit display will show “Er.”
 - Note that other button functions, including “shifted” functions, can be defined using the iLux Designer configuration program.

Setup Up/Down Button Function (ud)

To define operation of the up/down button, enter *Setup* mode and scroll to the “ud” option (using the **▲** and **▼** buttons).

- Use the up/down button to select the desired mode. The display will flip between “ud.” and “#”, where # is the mode, as defined in the following table.

FUNCTION	MODE
Lights (Last Scene) Master Up/Down	L
Shades Master Up/Down	S

- The first function to be displayed will be the current function. Since there are other functions that can be programmed via the iLux Designer, if the current function is not one of these, the display should show “ud.—”. Pressing the up/down button will then go to mode L.
- Press **Save** to save the new setting or **Cancel** to retain the original setting.

Setup Occupancy Sensing (oc)

To define operation of the Occupancy Sensing feature, enter *Setup* mode and scroll to the “oc” option (using the **▲** and **▼** buttons).

- Use the up/down button to select the desired mode. The display will alternate between “oc.” and the mode number, as defined in the following table.

MODE	CODE
Do nothing on either exit or entry	0
Recall specified scene on exit, do nothing on entry	1
Recall specified scene on entry, do nothing on exit	2
Recall specified scenes on entry and exit	3

- The first mode to be displayed will be the current mode.

- When programming from the front panel, exit time cannot be adjusted or displayed. If it has not been changed with iLux Designer, or SIMPL, it will be the default of 30 minutes. Scenes to be recalled also cannot be changed from the front panel. If they have not been changed with iLux Designer, the OFF scene will be recalled on exit (if enabled), and ON scene will be recalled on entry (if enabled).
- Even if these items are changed with iLux designer, they can still be enabled and disabled from the front panel without modifying the specified scenes or exit time.
- If **Cancel** is pressed, or *Setup* mode times out, the previous occupancy setting will be restored. To have the new setting take effect, you must press **Save**.
- Note that in mode 0, even though nothing happens locally when occupancy state changes, the occupancy status is still reported to Cresnet.

This mode can also be used to test the range of the occupancy sensor. While locked in the “oc.” mode, each time motion is sensed, the middle LED on all six bargraphs will blink.

Run Auto-Discovery (Ad)

This *Setup* mode is used to find which remote devices are on the network, assign Cresnet IDs to new devices, and assign default functions to new panels and devices.

- To enter this mode, first enter *Setup* mode and scroll to the “Ad” option (using the **^** and **v** buttons). Then press the up/down button (either top, bottom, or both), and hold for five seconds. The auto-discovery process will then start. (If you release the button before five seconds are up, nothing will happen, but “Ad.” mode will be locked in.) Once “Ad.” mode is locked in, the **Cancel** button will flash.
- During Auto discovery, the “Ad.” display will flash. When Auto Discovery is done, the two-digit display will flash between “Ad.” and “##” where ## is the number of devices discovered on the network. The **Save** button will also start flashing. You can then press **Save** or **Cancel**.
- The CLS-C6RF keeps a list of all devices on its local network. If the auto-discovery finds devices that match the list, it will not change anything about those.
- In addition to initially configuring the system, auto-discovery can be used to add or replace keypads or shade controllers. If you are adding a device, all previously assigned devices will not be changed. The new device will be added and assigned default functionality, if desired.
- To replace a device (because of defect or color choice), remove the device and replace with another device of the same type. When you execute auto-discovery, the new device will take on the functionality of the original device. Use the “bF” option to change functionality, if desired.
- All shade controllers of a given type will be assigned to a single shade group. Use the “AS” option to change them.

CAUTION: If there are SSC shade controllers on the network that do not have a functional shade connected to channel 1, shade control may not operate properly. Therefore, any SSC shade controllers without any shades attached should be removed from the network before running Auto-discover. Also, if any SSC shade controllers have only one shade attached, it must be attached to channel 1.

- There are a number of possible error conditions that can occur during the discovery process (before Save is pressed). They are:
 1. Corrupt data on network.
 2. Two or more devices with same TSID number.
 3. Invalid device type found on network. (CLS-C6RF modules only support a limited number of device types.) Refer to “Appendix A: Supported Devices” for details.
 4. Too many keypads found on network. (A maximum of 16 are supported.)
 5. Too many shade controllers found on network. (A maximum of 16 are supported.)
 6. (For future use.)
 7. Too many slave CLSI units found on network. (A maximum of eight are supported.)
- If any of these errors occur, when the discovery process is done, the two-digit display will flash between “Ad.” “##”, and “E#”, where “##” is the total number of devices discovered on the network (including invalid devices), and “E#” is “E1” through “E7”, per the seven error types listed above. If more than one error is present, all error codes will be displayed in sequence.
- In such case, the **Save** LED will not light (the **Cancel** LED will still be flashing). The user must press **Cancel**, correct the error, and try again.
- In the case where there were no errors during the Auto-discover process, and the user presses **Save**, the CLSI will update the Network IDs for any devices which require it.

NOTE: The case of duplicate TSIDs cannot always be accurately detected. If you get a Corrupt Data error, or the program reports fewer devices than actually exist on the network, this may also be a result of duplicate TSIDs. In any event, troubleshooting for these errors is essentially the same.

Assign Shade Groups (AS)

This *Setup* mode is used to define which channels on each shade controller are assigned to which shade group.

- To enter this mode, first enter *Setup* mode and scroll to the “AS” option (using the **▲** and **▼** buttons). Then use the up/down button to scroll through the shade groups. The display will flash between “AS.” and “#”, where # is the shade group to be assigned. The shade group number range is 1 – 6 plus 0 (zero). Enter a 0 to unassign a channel. (You can also press any of the six function front panel buttons to jump to a specific shade group.) The front panel LED corresponding to the selected shade group will be lit.
- While in *AS* mode, the bargraphs will indicate the status of each of the six shade groups: if no controllers are assigned, all LEDs will be off; if SDC controller(s) are assigned, the bottom two LEDs will be lit; if SDC-DC controller(s) are assigned, the bottom three LEDs will be lit; if SSC controller(s) are assigned, the top two LEDs will be lit.
- When a given “AS / #” is displayed, you can press the channel 1 or channel 2 up or down button on a shade controller to assign that channel of the shade controller to the current group. When the button is pressed, the **Setup** LED on

that device will flash for one second to confirm that it has been assigned. The bargraph for that group will also flash off for one second.

- Go to a shade group and assign all channels. Then go to the next shade group and assign those channels. Repeat for all shade groups. Note that a given shade group can only have one type of shade controller (SDC, SDC-DC, or SSC). If a shade controller of a given type is assigned to a group that already contains shade controllers of the other type, the other controllers will be removed from that group. Also, a given channel on a shade controller can only belong to a single group. So if a shade controller that belongs to one group is assigned to a new group, it will be removed from the first group. Therefore, if you accidentally assign a shade controller to the wrong group, simply go to the correct group and reassign it.

Once all shade controllers are assigned, press **Save** to save the assignments and return to *Standard* mode, or press **Cancel** to discard the assignments.

Display/Set MNET ID Of This Unit (id)

If this unit is to be connected to a Cresnet control system network, you may have to change its MNET ID. (When connected to another CLS-C6RF unit's local network, you do not want to set the ID – running Auto Discovery on the master device will do this automatically, as will the Set ID process of the iLux Designer.)

- To do this, enter *Setup* mode and scroll to the “id” option, using the **^** and **v** buttons.
- Press the up/down button. The display will show the current MNET ID. The *id* mode is now locked. A dot will be shown to the right of the “id.” The display will alternate between “id” and the current MNET ID.
- Use the up/down button to adjust the ID up or down (03-FE).
- If the button is held for more than ½ second, the unit will auto-repeat and start scrolling through the values. At the upper or lower limit, the unit will pause for ½ second and then wrap around.

Press the **Save** button to save the new value and return to *Standard* mode. Press the **Cancel** button to return to *Standard* mode without saving – the current MNET ID will be retained.

NOTE: The valid address range is 03 – 20. If at any time the transceiver connection is lost because the serial jack was inserted, the “E1” error code will be shown, the **Save** led will turn off, and the **Cancel** led will turn on. The Cancel button can be used to exit *Setup* and enter *Standard* mode.

Error Code:

“E1” = Cannot communicate with transceiver.

Acquire Gateway (Ac)

This procedure is used to acquire the C2N-MNETGW gateway.

- To do this, enter *Setup* mode and scroll to the “Ac” option, using the **^** and **v** buttons.
- Press and hold the up/down button for five seconds. The *Acquire* mode will start. The “Ac.” text will flash, the **Cancel** led will flash. The acquire process may take up to five minutes.

- When acquire is done, the display will alternate between “Ac” and result codes.
- If acquire was successful, the **save** led will flash, and the **Cancel** led will turn off. (**Cancel** button is disabled). Press the **Save** button to go into *Standard* mode.
- If acquire was unsuccessful, the **Cancel** led will flash. The previous gateway link information will be restored. Press the **Cancel** button to go into *Standard* mode.

Result codes:

“00” = Successful

“E1” = Cannot communicate with the transceiver

“E2” = Search expired; no gateway found

“E3” = RF channel is disabled. This code is immediately shown when the *Acquire* mode is entered.

“E4” = Invalid EUID or EUID was not assigned

Unacquire Gateway (UA)

This procedure is used to unacquire the C2N-MNETGW gateway.

- To do this, enter *Setup* mode and scroll to the “UA” option, using the **▲** and **▼** buttons.
- Press and hold the up/down button for five seconds. The “UA.” text will flash, the **Save** and **Cancel** leds will flash.
- If “Unacquire” is successful, the **Save** led will flash. The display will alternate between “UA” and the passed result code. Press the **Save** button to end *Setup* mode and enter *Standard* mode
- If “Unacquire” is unsuccessful, the **Cancel** led will flash. The display will alternate between “UA” and the failed result code. Press the **Cancel** button to end *Setup* mode and enter *Standard* mode.

Result codes:

“00” = Successful

“E1” = Cannot communicate with the transceiver

“E2” = Unacquire failed (1-was never acquired, 2-etc.)

Display/Set RF Channel

This procedure is used to display or set the RF Channel.

- To do this, enter *Setup* mode and scroll to the “Ch” option, using the **▲** and **▼** buttons.
- Press the master up or down key. The current channel is shown. The *Channel* mode is now locked. A dot will be shown to the right of the “Ch”. The display will alternate between “Ch.” and the current channel.
- If the button is held for more than ½ second, the unit will auto-repeat and start scrolling through the values. At the upper or lower limit, the unit will pause for ½ second and then wrap around.
- Use the up/down key to change channel. If held for more than ½ seconds will auto repeat. At limit will pause for ½ second and then wrap around
- Press the **Save** button to save the new value and return to *Standard* mode.

- Press the **Cancel** button to return to *Standard* mode without saving.

Supported channel settings are:

0 = channel disabled,
11.-26 = Fix *Channel* mode,
Au = Auto *Channel* mode

NOTE: If at any time the transceiver connection is lost because the serial jack was inserted, the E1 error code will be shown, the **Save** led will turn off, and the **Cancel** led will turn on. The Cancel button can be used to exit *Setup* and enter *Standard* mode.

Error Codes:

“E1” = Cannot communicate with the transceiver (the **Cancel** led will blink. Pressing the Cancel button returns the iLux to *Standard* mode).

“E2” = Invalid channel selected. This error code is shown on entry if invalid channel settings were reported by the transceiver. However, the up/down keys can be used to select valid channel settings.

Restore Factory Defaults (Fd)

This procedure is used to restore all settings to their factory defaults.

- To do this, first enter *Setup* mode and then scroll to the “Fd” option (using the **^** and **v** buttons). Then press the up/down button (either top, bottom, or both), and hold for five seconds.
- This procedure will then be locked in, and the **Save** LED will start flashing. (If you release the button before five seconds are up, nothing will happen.) If you then press **Save**, all configuration items will be set to their factory default values. (If you press **Cancel**, the unit exits *Setup* mode without changes.) The factory default configuration does not include any remote devices. If you want to re-initialize remote devices, run Auto-discover after this function. Running the factory default function also does not modify the MNET ID of the CLS-C6RF.
- The save process may take a few seconds. During this time, the **Save** LED will be lit steady, and the two-digit display will show “—”. When the process is complete, the LEDs will go off.

Refer to “Appendix C: Factory Default Values” on page 47 for a list of the system default values.

Configuring With iLux Designer

The Crestron iLux Designer application software supplied with the CLS-C6RF units configures the CLS-C6RF as an independent, standalone device or as a network device in a Crestron network control system (Cresnet system).

To configure the CLS-C6RF using the iLux designer, use a direct serial connection as described in “Programs and Firmware” on page 32. Note that connecting the serial cable to the front panel of the CLS-C6RF disconnects the control system network.

Configuring the CLS-C6RF consists of setting the load schedule definition, the shade group configuration, the scene definitions, the CLS-C6RF panel configuration and keypads configuration for each CLS-C6RF device. Note that only one CLS-C6RF can be configured at a time. If there are multiple CLS-C6RF units in a system, each one must be individually configured.

The following are the minimum software versions required to use the iLux Designer program.

iLux Designer version 1.02.05 or later

Crestron Toolbox version 1.01.11 or later

Crestron Engraver version 2.5.0 or later*

Crestron Database version 17.3.0 or later*

*Required only if you intend to use the Crestron Engraver to prepare custom labeling.

The following sections provide a brief description of the iLux Designer functions. Refer to the iLux Designer online help for detailed explanations.

Load Schedule

The Load Schedule screen allows you to identify up to six lighting loads (circuits), add lighting load types for each channel; specify load type fixture wattage and quantity; specify the breaker size; specify the expected loss factor from magnetic transformers (magnetic low voltage, and neon/cold-cathode types only); specify upper and lower dimmer levels; and specify non-dimmer behavior.

The software issues warnings if your individual loads or total system wattage exceeds specified limits: 800 watts per load – 1920 watts system maximum with a 20A breaker (1440 watts maximum with a 15A breaker, and 1000 watts maximum with an Arc Fault breaker) for a 120 VAC installation; and 800 watts per load – 2200 watts system maximum for a 220 VAC installation, 2300 watts system maximum for a 230 VAC installation, and 2400 watts system maximum for a 240 VAC installation.

Shades

The Shades screen allows you to assign up to 16 shade controllers, define up to six shade groups; enter appropriate values for jog time, maximum time and lockout time; and select the shade controller channels to be assigned to each shade group.

With SDC and SDC-DC shade controllers, there is no way for the system to recognize when the shade has reached the limits of travel and stopped. If the shade is commanded to go to full open or full close, the system assumes it is moving until the max time is reached. To set the max time effectively, measure the time it takes the shade to travel from full close to full open and the time to travel from full open to full close. Take the longer of these two times and set max time slightly more than that. Actual experience may require that you set the time even longer.

Scenes

The Scenes screen allows you to define 15 regular scenes (lighting levels and shade positions) in addition to the standard Off and On scenes. For all scenes, enter a fade time in seconds or minutes, and the desired level for each lighting load. (Select – – if a given load should not be affected by that scene.) Similarly, set the desired position for any shade groups. To prevent changing those settings from the front panel, check the Front Panel Lockout box.

CLS-C6

The CLS-C6 screen allows you to enter the manual ramp rate used by the CLS-C6RF when manually raising/lowering light levels; define the functionality of the six function buttons; define the behavior of the up/down button; specify if scene raise/lower will be enabled; and define the entry action, the exit action, and motion

sensor timeout when the motion sensor function is enabled. You can also launch the Crestron Engraver software program to create an engraver project for the CLS-C6RF function buttons label.

NOTE: In systems with multiple CLS-C6RF units that have the motion sensor function enabled, it is important to set the motion sensor timeout of each unit to the same value.

Keypads

The Keypads screen allows you to add up to 16 remote keypads; specify the remote keypad type; define the action type, action, and target of each button on that keypad. You can also launch the Crestron Engraver to create an engraver project for each remote keypad.

NOTE: All keypads defined in the project must be installed and present on the CLS-C6RF network before setting Network IDs via the Finish screen.

Finish

The Finish screen allows you to send your iLux Designer project to the CLS-C6RF; set the Net IDs for network devices; retrieve configuration information from the current CLS-C6RF module; and print reports that give the spreadsheet data from each of the configuration screens.

Console Command Settings

Enabling/disabling IR reception, resetting the brightness level for the white and green LEDs, and resetting the *Glow* mode level can be done only via console commands.

By default, IR reception is enabled, the white and green LED brightness levels are set to 70 and 63, respectively, the white shift LED brightness level is set to 70, and the white LED *Glow* mode level is set to 7. If the settings are acceptable, continue with the configuring procedures. If these settings are not satisfactory, open the Crestron Toolbox and click **Tools | Text Console** to display the “Text Console” window, and follow the instructions given below.

IR Reception

1. At the **iLux>** prompt, type **<IR>** and press **Return** to display the current setting. The system displays:

```
IR reception is enabled (or disabled)
iLux>
```

2. To disable IR reception, type **<IR disable>** and press **Return**. The system displays:

```
IR reception is disabled
iLux>
```

3. To enable IR reception, type **<IR enable>** and press **Return**. The system displays:

```
IR reception is enabled
iLux>
```

LED Brightness

These settings are for the white LEDs next to the function buttons and the **ON** button, the shift LEDs, and the green bargraph LEDs.

1. At the prompt, type **<WHITELEDLEVEL>** or **<GREENLEDLEVEL>** and press **Return**. The system displays, for example:

```
White led brightness level = 70  
iLux>
```

2. To change the brightness, type **<WHITELEDLEVEL ##>** or **<GREENLEDLEVEL ##>** where **##** is any number from 1 to 100.
3. When you press **Return**, the respective LEDs go to their new level.

Glow Mode Brightness

Glow mode is enabled when all lighting loads are turned off. In *Glow* mode, all the white LEDs turn on at a very low level to make it possible to find the unit in a darkened room.

1. Press the **OFF** button to select the Off scene (all lights off).
2. At the prompt, type **<WHITELEDGLOWLEVEL>** and press **Return**. The system displays:

```
White led glow level = 7  
iLux>
```

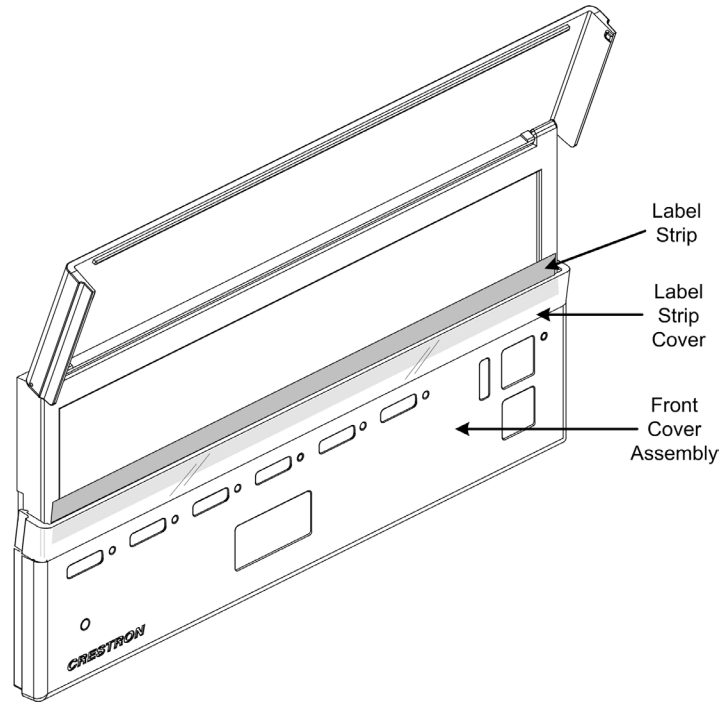
3. To change the brightness, type **<WHITELEDGLOWLEVEL ##>** where **##** is any number from 1 to 100. (The glow level should be much lower than the normal LED brightness.)
4. When you press **Return**, the white LEDs go to their new level.

Replacing the Function Button Label

Each CLS-C6RF is supplied with a pre-printed label sheet, in white, almond, or black to match the unit's color. The sheet contains two labels showing the standard Scene 1 – Scene 6 button labels, three labels with clear spaces that permit you to write in single line button names, and three labels with clear spaces that permit you to write in two-line button names to accommodate shift functions. The label sheet is micro-perforated to make it easy to separate the desired label from the sheet. Carefully fold the sheet along the perforations to snap them apart.

1. To replace the label on the unit, remove the front panel assembly by carefully pulling out and up from the bottom edge.
2. Carefully pull the label cover from the top edge at each side of the unit. Refer to the following illustration.
3. Remove the original label and replace it with the new label.
4. Replace the label cover, make sure the small tabs on the bottom edge are inserted in the slots on the unit cover, and snap into position.

5. Install the front cover assembly on the unit by lining it up at the top and pressing the bottom edge until it snaps into position.



Programming Software

IMPORTANT NOTE: The procedures in this section relate to creating a program that can include the CLS-C6RF, not to programming the CLS-C6RF itself. If it is to be part of a 2-Series control system, you must first configure the unit using the iLux™ Designer program or configure it manually using the front panel controls. Then use SIMPL Windows, D3 Pro™, or Crestron SystemBuilder™ to communicate with a 2-Series control system. Individual button functionality is not available except through configuring the CLS-C6RF itself.

Have a question or comment about Crestron software?

Answers to frequently asked questions (FAQs) can be viewed in the Online Help section of the Crestron website. To post a question or view questions you have submitted to Crestron's True Blue Support, log in at <http://support.crestron.com>. First-time users will need to establish a user account.

Earliest Version Software Requirements for the PC

NOTE: Crestron recommends that you use the latest software to take advantage of the most recently released features. The latest software is available from the Crestron website.

Crestron has developed an assortment of Windows®-based software tools to develop a Cresnet / infiNET system. You can create a program to control the CLS-C6RF using the Crestron programming tools D3 Pro™ or SIMPL Windows. Customers whose focus is on lighting systems may prefer to use the D3 Pro software since it is designed especially for creating lighting and environmental system control applications. Customers already familiar with SIMPL Windows who are including a lighting system as part of an overall control system project may prefer to continue using SIMPL Windows. For the minimum recommended software versions, visit the Version Tracker page of the Crestron website (www.crestron.com/versiontracker).

Programming with Crestron SystemBuilder/D3 Pro

Crestron SystemBuilder is the easiest method of programming, but does not offer as much flexibility as SIMPL Windows. Crestron D3 Pro similarly offers automatic programming for lighting and HVAC projects.

For additional details, download SystemBuilder and D3 Pro from the Crestron website and examine their extensive help files.

Programming with SIMPL Windows

NOTE: While SIMPL Windows can be used to program a system that includes a CLS-C6RF, it is recommended to use SystemBuilder for configuring a Crestron control system.

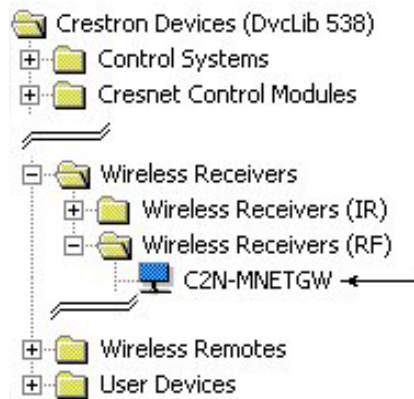
SIMPL Windows is Crestron's premier software for programming Crestron control systems. It is organized into two separate, but equally important "Managers".

Configuration Manager

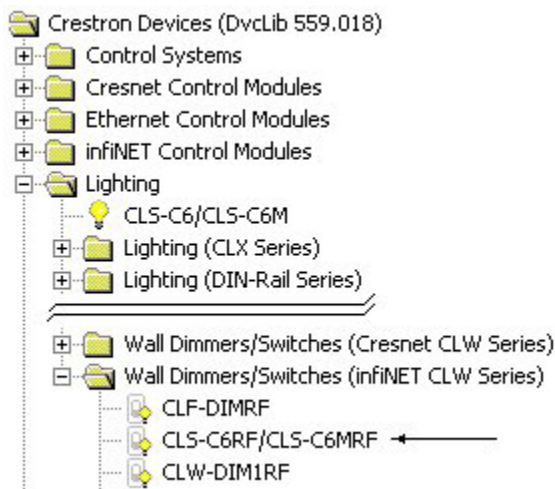
Configuration Manager is the view where programmers “build” a Crestron control system by selecting hardware from the *Device Library*.

- To incorporate the CLS-C6RF into the system, first drag a C2N-MNETGW gateway icon from the Wireless Receivers | Wireless Receivers (RF) folder of the *Device Library* and drop it in the *System Views* panel. Then, drag the CLS-C6RF/CLS-C6MRF icon from the Lighting | Wall Dimmers/Switches (infiNET CLW Series) folder and drop it on the C2N-MNETGW icon.

Locating the C2N-MNETGW in the Device Library



Locating the CLS-C6RF in the Device Library



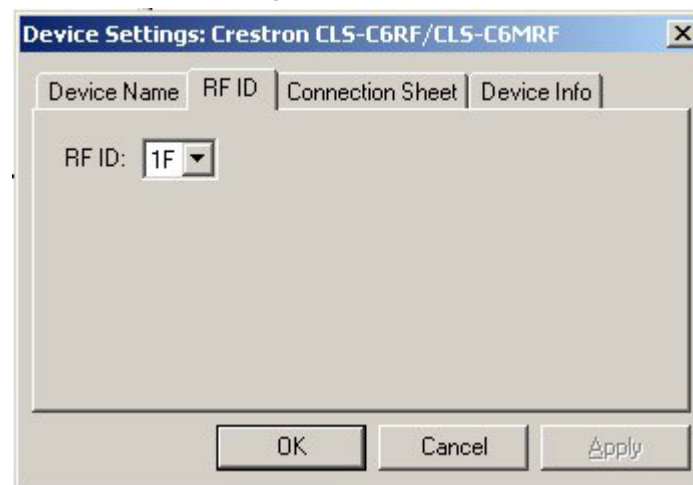
- The system tree of the control system displays the device in the appropriate slot with a default MNET ID as shown in the following illustration.

C2Net Device, Slot 9



- Additional CLS-C6RF devices are assigned different MNET ID numbers as they are added.
- If necessary, double click a device to open the “Device Settings” window and change the RF ID, as shown in the following figure.

“CLS-C6RF Device Settings” Window



- The ID code specified in the SIMPL Windows program must match the MNET ID of each unit.

Programming Manager

Programming Manager is the view where programmers "program" a Crestron control system by assigning signals to symbols. The symbol can be viewed by double clicking on the icon or dragging it into *Detail View*. A description for each signal in the symbol is described in the SIMPL Windows help file (**F1**).

Example Program

An example program for the CLS-C6RF is available from the Crestron website (<http://www.crestron.com/exampleprograms>).

Uploading and Upgrading

Crestron recommends using the latest programming software and that each device contains the latest firmware to take advantage of the most recently released features. However, before attempting to upload or upgrade, it is necessary to establish communication.


Establishing Communication

Use Crestron Toolbox for communicating with the CLS-C6RF; refer to the Crestron Toolbox help file for details. There are two methods of communication

Direct Serial

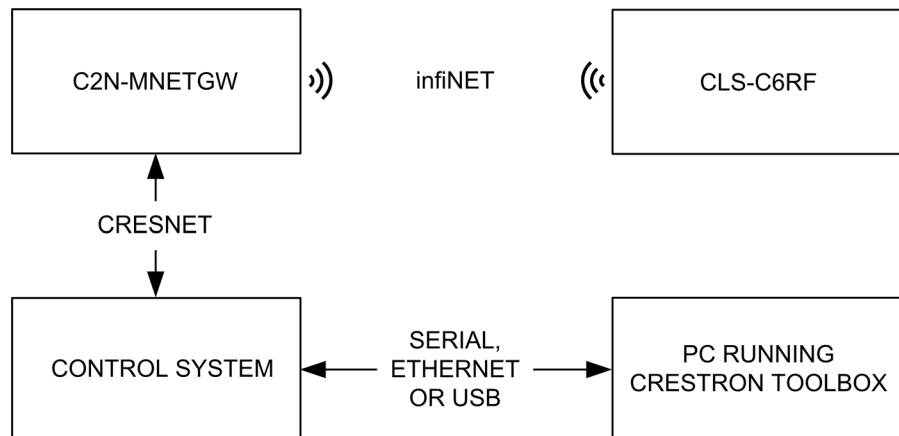
Direct Serial Communication



- The **RS-232** mini phone jack port on the CLS-C6RF connects to the serial port on the PC via the supplied serial cable.
- Use the Address Book in Crestron Toolbox to create an entry using the expected serial communication protocol (RS232, auto-detect baud rate, no parity, 8 data bits, 1 stop bit, XON/XOFF disabled, RTS/CTS disabled).
- Display the CLS-C6RF's "System Info" window (click the  icon); communications are confirmed when the device information is displayed.


Indirect Serial

Indirect Serial Communication



- The CLS-C6RF connects to the C2N-MNETGW gateway via infiNET; the gateway connects to the control system via Cresnet.
- Establish communications between the PC and the control system as described in the latest version of the 2-Series Reference Guide (Doc. 6256).

Programs and Firmware

- Upload the SIMPL Windows file to the control system using SIMPL Windows or Crestron Toolbox.
- For Indirect Serial Communication with the CLS-C6RF, display the network device tree (**Tools | Network Device Tree**) to show all network devices connected to the control system. Right-click on the CLS-C6RF to display actions that can be performed on the CLS-C6RF:
 - ⇒ Change MNET ID
 - ⇒ Change serial number
- For Direct Serial Communication with the CLS-C6RF, display the “System Info” window (select **Tools | System Info**, or click the  icon).
 - ⇒ Select **Quick functions access (Alt F) | Firmware...** to upgrade the CLS-C6RF firmware.
 - ⇒ Select **Device ID | MNET ID...** to change the CLS-C6RF MNET ID

For details on uploading and upgrading, refer to the SIMPL Windows help file or the Crestron Toolbox help file.

Operation

The iLux always operates in one of four modes. The *Setup* mode is used to redefine many of the CLS-C6RF settings. Details regarding the *Setup* mode are given in “Setup Mode” on page 13.

The following sections provide detailed descriptions of the *Standard*, *Lights*, and *Shades* modes. It is important to have a good understanding of these operating modes before attempting to take advantage of the extensive features available through the CLS-C6RF. (Refer also to “Appendix D: Button Functions” on page 48 for details on button functions.)

Standard Mode

Standard mode is the default mode; buttons are typically used to recall scenes, although they can be redefined to serve other functions.

- By default, the six function buttons across the front panel are simple scene recall buttons. The buttons can be reprogrammed in *Setup* mode, or via the iLux Designer program, to perform different actions.
- The **ON** button function always recalls the “On” scene. The typical On scene is all lights at 100%; however, other value can be set just like any other scene.
- The **OFF** button function always recalls the “Off” scene. The “Off” scene always sets all lights to 0%; however, fade time and shade motor behavior are programmable.
- Whenever all the lighting loads are off (irrespective of how they are turned off), the “air-gap” relay will open (after a two-second delay), to allow servicing of the lighting loads.
- The up/down pushbutton can be defined to be either “lights master” or “shades master.”
 - If defined to be lights master, it ramps the lighting loads included in the most recently recalled scene up and down. Non-dim loads are not affected.
 - If defined to be shades master, all shade groups are affected. Refer to “Shades mode” on page 37 for operating details.
 - Using the iLux Designer program, this button may be assigned to activate the Shift function rather than being a lights or shades master. Pressing the button will toggle between “upper” and “lower” function sets.
 - Using the iLux Designer software, it is also possible to assign this button as “all lights” master, instead of “last scene” master.
- The six bargraphs indicate current intensity for each of the six lighting loads.
- The two-digit display is normally blank, except when a scene recall is in progress. It then shows the time remaining for lights to reach their target values.

Button Types

In *Standard* mode, the six function buttons can be programmed in *Setup* mode to be one of the following types. Using the iLux Designer software, other button functions may be specified. (Refer to “Configuring With iLux Designer” on page 23 for details.)

- Recall-scene (specify scene number OFF, ON, 1-15). Refer to “Recall-scene buttons” below.
- Toggle-scene (specify scene number ON, 1-15). Refer to “Toggle-scene buttons” on page 35.
- Lighting master raise/lower (last scene). Refer to “Master (Last Scene) Raise/Lower buttons” on page 35.
- Lighting master raise (last scene). Refer to “Lighting Master (Last Scene) Raise buttons” on page 35.
- Lighting master lower (last scene). Refer to “Lighting Master (Last Scene) Lower buttons” on page 35.
- Shade control (open/stop/close/stop) (specify shade group: AL, 1-6). Refer to “Shade Control (open/stop/close/stop) Buttons” on page 35.

Recall-scene buttons:

- Used to recall a scene, i.e., have the specified lighting loads and/or shade groups go to their specified levels in the specified time. (Time only affects lighting loads; shade time is function of the shade motor.)
 - During scene recall, the scene LED flashes until all affected lighting loads reach their target levels. After this, the LED remains on steady.
 - Pressing a scene button while its LED is flashing performs a scene cut (lights immediately go to target levels).
 - When a scene is recalled, the two-digit display will initially show the fade time of the scene, and then count down to 0 as the scene progresses.
 - For the six dual buttons, if the Raise/Lower function is enabled on Recall-scene buttons via the iLux Designer software, and a scene is selected (LED on steady), the right and left sides of the function button can be used to raise and lower all dimmable lighting loads contained in that scene.
 - The **ON** button always acts as a recall scene button for the ON scene, operating identically to other scene-recall buttons, except that items specific to dual buttons do not apply.
 - The **OFF** button always acts as a recall scene button for the OFF scene, operating identically to other scene-recall buttons, except:
 1. There is no LED associated with this button. Note that “cut” during fade will still function. Note also that a feedback LED for an OFF button on remote keypads will act as all other scene recall LEDs – it will flash while the off scene is being recalled, and will be lit when the unit is in the OFF scene.
 2. Items specific to dual buttons do not apply.
 3. Note that if the last scene recalled was the OFF scene, the last scene master will affect all dimmable lighting channels (since they are all included in the “last scene”).
 4. Any time all six lighting loads are off, all seven of these LEDs will glow at a low intensity (to allow finding the CLS-C6RF unit in the dark).

Toggle-scene buttons

- Used to alternately recall a scene or turn scene lights off (i.e., have the specified lighting loads go to off, in the specified time).
- The toggle scene function should not be assigned to any scene that includes shades.
- Note that the **ON** and **OFF** buttons are fixed recall scene buttons, and cannot be defined to be toggle. (However, a remote keypad button can be defined to toggle the ON scene, but not the OFF scene.)
- The LED is on if and only if ANY lighting load in the scene is above 0% (ignores state of shades).
- Pressing the button while all lights are off (LED off) will recall a scene. Pressing it while any lights are on (LED on) will turn that scene's lights off.
- During scene recall, the scene LED will flash until all affected lighting loads reach their target levels. After this the LED will remain on steady until all affected lights go off.
- During scene turn off, the LED will flash until all affected lighting loads reach 0%. After this, the LED will be off until any affected light turns on.
- Pressing a scene button while its LED is flashing performs a scene cut (during either recall or turn off).
- Behavior of the two-digit display is the same as for scene recall.

Master (Last Scene) Raise/Lower buttons

- Press the right side to raise lights, the left side to lower, release to stop.
- All dimmable lighting loads will be ramped up or down at a fixed rate, which is the same rate as used for individual up/down operation in *Lights* mode.
- Non-dim lighting loads will not be affected.
- The feedback LED will light while the button is being pressed.

Lighting Master (Last Scene) Raise buttons

- Same as Master Raise/Lower button, except that pressing any part of the button will raise lights.

Lighting Master (Last Scene) Lower buttons

- Same as Master Raise – except lowers lights instead of raising them.

Shade Control (open/stop/close/stop) Buttons:

- Used to control the specified shade group, or all shade groups.
- Press the right side of the function buttons to open the shades; press the left side to close them. Press the button while the shade is moving to stop it.
- The feedback LED will be on only while a button is pressed.

IR Receiver

Functions can also be triggered through the built in RC5 IR receiver, using the optional remote control.

Occupancy Sensing

Occupancy sensing may have specific actions specified for entry and for exit. Either or both of these may be disabled. A limited number of actions are available when programmed locally; more options are available when programmed using the iLux Designer program.

If motion is detected, or some other activity takes place, a room is considered occupied. If no activity takes place for a specified time (default is 30 minutes), the room is considered unoccupied.

When the state of the room changes from occupied to unoccupied, the exit function (if enabled) will be executed. When the state of the room changes from unoccupied to occupied, due to motion detection, the entry function (if enabled) will be executed. When the state of the room changes from unoccupied to occupied due to a button press or the receipt of a command, no function will be executed.

NOTE: In systems with multiple CLS-C6RF units that have the motion sensor function enabled on any of the units, it is important to set the motion sensor timeout of each unit to the same value. Otherwise, operation may not be as expected.

Lights Mode

Lights mode is used to manually adjust any of the six lighting loads.

To enter *Lights* mode, raise the cover and press the **Lights** button. The corresponding LED will light, and the six function buttons can now be used to adjust lighting loads 1 through 6. Any scenes that are currently in the middle of a fade will immediately go to their target value. The seven white front panel LEDs will go out. In this mode, these LEDs do not reflect the feedback status of the associated scenes. When you return to *Standard* mode, the LEDs will return to their standard feedback indication.

Pressing the right side of one of the six function buttons raises the corresponding lighting load at the ramp rate. Pressing the left side of the button lowers the corresponding load at the ramp rate. When the button is released, the lights will stop.

- The ramp rate is normally five seconds for going from full off to full on. This can be adjusted using the iLux Designer software. Non-dim lighting loads go immediately to full on or full off.
- The bargraphs indicate current light level.
- The two-digit display will indicate the current percentage level of the lighting load being adjusted (oF, 01 to 99, on).
This display goes blank three seconds after the last adjustment.
While the front panel button is being pressed, the LED under the corresponding bargraph will be lit solid to indicate which light level is being reflected.
- The up/down button will act as an All Lights Master when in *Lights* mode, no matter what function is programmed for it. The top button will do Master Raise (all dimmable lighting loads), and the bottom button will do Master Lower (all dimmable lighting loads).
- The **ON** and **OFF** buttons on the CLS-C6RF unit itself will operate normally while in *Lights* mode as will any Scene Recall, Scene Toggle, and SceneLts_Off commands from remote panels and Cresnet. However, during the fade, the two-digit display will not show the fade time on the unit that is in *Lights* mode.
- All other inputs and commands from any remote devices, motion detector, and Cresnet Control system will be processed as usual while in *Lights* mode. If they affect the lighting load (or loads) being adjusted, the manual adjustment of that lighting load will terminate, and the new command will take precedence. To

manually adjust this channel after that, you must release and re-press the button. The unit remains in *Lights* mode.

To exit *Lights* mode, press the **Lights** button again (or press **Cancel**), and the LED will go off. The unit is now back in *Standard* mode. (Also, if no adjustments are made within one minute, the unit reverts to *Standard* mode.)

Pressing the **Shades** button automatically exits *Lights* mode and enters *Shades* mode.

Shades Mode

Shades mode allows you to manually control any of the six shade groups.

To enter *Shades* mode, raise the cover and press the **Shades** button. The corresponding LED will light, and now the six function buttons can be used to adjust shade groups 1 through 6. Any scenes that are currently in the middle of a fade will immediately go to their target value. The seven white front panel LEDs will go out. In this mode, these LEDs do not reflect the feedback status of the associated scenes. When the unit is returned to *Standard* mode, these LEDs will return to their standard feedback indication.

- The six function buttons act as open/stop/close/stop (rocker type) for each of the corresponding six shade groups.
- Operation is as described for the Shade Control button type in *Standard* mode (page 33.)
- For shade groups with C2N-SSC-2 controllers:
 - While in *Shades* mode, the bargraphs indicate the current shade position.
 - The two-digit display will indicate the current percentage level of the shade group being adjusted (CL, 01 to 99, OP).
 - The two-digit display disappears (goes blank) three seconds after the shade stops moving (due to either a stop command or reaching a limit of travel).

Note that the two-digit display only shows the shade level when being adjusted from front panel buttons in *Shades* mode or scene programming. It does not display when adjusting levels from a remote panel or Cresnet.

- For shade groups with C2N-SDC or C2N-SDC-DC controllers:
 - Bargraphs initially display nothing while a shade is not moving. While the shade is moving open, the bargraph LEDs scroll in an upward direction. While moving closed, the bargraph LEDs scroll in a downward direction. When the shade is stopped or the maximum time is reached, the bargraph will turn off.
 - The two-digit display will show “OP” or “CL” accordingly.
 - The up/down button will act as a shades master when in *Shades* mode, no matter what function is programmed for it. Pressing the top while the shade is stopped sends it to full open; pressing the bottom while the shade is stopped sends it to full close; pressing anything while the shade is moving stops it. Pressing both while the shade is stopped causes the shade to move in the opposite direction.
 - The **ON** and **OFF** buttons on the CLS-C6RF unit itself, will operate normally while in *Shades* mode. The same is true for all scene recall or scene toggle functions triggered by remote panel or Cresnet command.
 - Inputs/commands from any remote devices, motion detector, and Cresnet control system are processed as usual while in *Shades* mode. If they affect the group (or groups) being adjusted, the manual adjustment of that shade

group terminates, and the new command takes precedence. To manually adjust this channel after that, you must release and re-press the button. The unit remains in *Shades* mode.

To exit *Shades* mode, press the **Shades** button again (or press the **Cancel** button); the LED will go off and the unit returns to *Standard* mode. Also, pressing the **Lights** button automatically exits *Shades* mode and enters *Lights* mode.

If no adjustments are made for one minute, the unit automatically reverts to *Standard* mode.

Problem Solving

Troubleshooting

The table below provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

CLS-C6RF Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Unit does not function.	Improper MNET ID used.	Verify that the keypad's MNET ID matches the MNET ID in the software program.
	Unit is not receiving line power.	Verify that the unit is properly connected to the power line and that the circuit breaker is closed.
	Loads are not connected.	Verify that the loads are operational and that they are connected to the CLS-C6RF unit.
	Unit is not communicating with the C2N-MNETGW.	Open Crestron Toolbox and select the Network Device Tree. Expand the tree until the gateway to be managed is selected. Right-click the MNET ID of the selected gateway to open the sub-menu and select Functions MNET Gateway.... If the keypad is not listed, acquire the device to the infiNET network (refer to "Display/Set MNET ID Of This Unit (id)" which starts on page 21).
Loads turn on and off, but do not dim.	Wrong load type settings.	Correct load type settings.
Lights flicker at low levels.	Incorrect low-end limit setting.	Change low-end limit setting.
In a multi-unit room configuration, commands from a remote IR controller cause loads to cut to their settings rather than fade.	More than one iLux unit picking up IR command.	Disable IR function on all but one unit.
Motion detector does not function.	Occupancy sensor function is not enabled.	Use iLux Designer or front panel setup function to enable occupancy sensor.

Check Network Wiring

Use the Right Wire

In order to ensure optimum performance over the full range of your installation topology, Crestron Certified Wire, and only Crestron Certified Wire, may be used. Failure to do so may incur additional charges if support is required to identify performance deficiencies because of using improper wire.

Calculate Power

CAUTION: Use only Crestron power supplies for Crestron equipment. Failure to do so could cause equipment damage or void the Crestron warranty.

CAUTION: Provide sufficient power to the system. Insufficient power can lead to unpredictable results or damage to the equipment. Please use the Crestron Power Calculator to help calculate how much power is needed for the system (<http://www.crestron.com/calculators>).

When calculating the length of wire for a particular Cresnet run, the wire gauge and the Cresnet power usage of each network unit to be connected must be taken into consideration. Use Crestron Certified Wire only. If Cresnet units are to be daisy-chained on the run, the Cresnet power usage of each network unit to be daisy-chained must be added together to determine the Cresnet power usage of the entire chain. If the unit is a home-run from a Crestron system power supply network port, the Cresnet power usage of that unit is the Cresnet power usage of the entire run. The wire gauge and the Cresnet power usage of the run should be used in the following equation to calculate the cable length value on the equation's left side.

Cable Length Equation

$$L < \frac{40,000}{R \times P}$$

Where: L = Length of run (or chain) in feet
R = 6 Ohms (Crestron Certified Wire: 18 AWG (0.75 MM²))
or 1.6 Ohms (Cresnet HP: 12 AWG (4 MM²))
P = Cresnet power usage of entire run (or chain)

Make sure the cable length value is less than the value calculated on the right side of the equation. For example, a Cresnet run using 18 AWG Crestron Certified Wire and drawing 20 watts should not have a length of run more than 333 feet. If Cresnet HP is used for the same run, its length could extend to 1250 feet.

NOTE: All Crestron certified Cresnet wiring must consist of two twisted pairs. One twisted pair is the +24V conductor and the GND conductor, and the other twisted pair is the Y conductor and the Z conductor.

Strip and Tin Wire

When daisy-chaining Cresnet units, strip the ends of the wires carefully to avoid nicking the conductors. Twist together the ends of the wires that share a pin on the network connector, and tin the twisted connection. Apply solder only to the ends of the twisted wires. Avoid tinning too far up the wires or the end becomes brittle. Insert the tinned connection into the Cresnet connector and tighten the retaining screw. Repeat the procedure for the other three conductors.

Add Hubs

For larger networks (i.e., greater than 28 network devices), it may become necessary to add a Cresnet Hub/Repeater (CNXHUB) to maintain signal quality throughout the network. Also, for networks with lengthy cable runs, it may be necessary to add a Hub/Repeater after only 20 devices.

Reference Documents

The latest version of all documents mentioned within the guide can be obtained from the Crestron website (<http://www.crestron.com/manuals>). This link will provide a list of product manuals arranged in alphabetical order by model number.

List of Related Reference Documents

DOCUMENT TITLE
2-Series Control Systems Reference Guide
CAT5 Wiring Reference Guide
Crestron e-Control Reference Guide
RoomView Reference Guide

Further Inquiries

If you cannot locate specific information or have questions after reviewing this guide, please take advantage of Crestron's award winning customer service team by calling Crestron at 1-888-CRESTRON [1-888-273-7876].

You can also log onto the online help section of the Crestron website (www.crestron.com/onlinehelp) to ask questions about Crestron products. First-time users will need to establish a user account to fully benefit from all available features.

Future Updates

As Crestron improves functions, adds new features, and extends the capabilities of the CLS-C6RF lighting systems, additional information and programming examples may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron website periodically for manual update availability and its relevance. Updates are identified as an “Addendum” in the Download column.

Appendix A: Supported Devices

The CLS-C6RF local devices network supports up to 16 remote devices consisting of keypads, shade controllers, and additional CLS-C6RF units.

Keypads

Up to 16 keypads can be added on the local devices network. The following table lists default button functions for the keypad types currently supported. These settings can be changed using the front panel *Setup* mode or via iLux Designer.

KEYPAD TYPE	BUTTON #	FUNCTION	BUTTON #	FUNCTION
CNX-B2	1	Recall ON Scene	2	Recall OFF Scene
CNX-B4	1	Recall ON Scene	2	Recall OFF Scene
	3	Last Scene Up	4	Last Scene Down
CNX-B6 / C2N-DB6	1	Recall Scene 1	2	Recall Scene 2
	3	Recall Scene 3	4	Recall Scene 4
	5	Recall OFF Scene	6	Recall ON Scene
CNX-B8 / C2N-DB8	1	Recall Scene 1	2	Recall Scene 2
	3	Recall Scene 3	4	Recall Scene 4
	5	Last Scene Down	6	Last Scene Up
	7	Recall OFF Scene	8	Recall ON Scene
CNX-B12 / C2N-DB12	1	Recall Scene 1	2	Recall Scene 2
	3	Recall Scene 3	4	Recall Scene 4
	5	Recall Scene 5	6	Recall Scene 6
	7	Recall Scene 7	8	Recall Scene 8
	9	Last Scene Down	10	Last Scene Up
	11	Recall OFF Scene	12	Recall ON Scene

Shade Controllers

A maximum of 16 shade controllers can be added to the local devices network. The following shade controllers are currently supported:

C2N-SSC-2*

C2N-SDC

C2N-SDC-DC

Note that the two channels on these shade controllers are labeled 1&2. SIMPL Windows cannot address the individual Shade Controllers. Only shade groups can be addressed.

* With firmware version 2.5.0 or later

Appendix B: Console Commands

Console commands are available through the Crestron Toolbox program.

1. Select **Text Console** from the **Tools** menu.
2. At the prompt, enter **HELP ALL** and press **Return**. The system displays:

```
iLux>HELP ALL

?                display list of common commands
GETCONFIG        get project file from iLux
GREENLEDLEVEL    display or set the green leds brightness level
HELP            display list of available categories
INFO            display additional device information
IR              display or enable/disable IR reception
MNETID          set or display MNET id
PROJECTINFO      display detailed project file information
PUTCONFIG        load project file to iLux
REBOOT          reboot the iLux
REPORTCRESNET    show all devices on the local network
RESTORE         set all parameters to factory default
RFCHANNEL        set or display RF Channel settings
SYSTEM          load firmware to iLux
UPLOAD          load firmware to cresnet device on the local
                network
UPTIME          Display time since reboot
VERSION          display firmware version number
WHITELEDLEVEL    display or set white leds brightness level
WHITELEDGLOWLEVEL display or set white leds glow brightness level

iLux>
```

The commands are presented alphabetically in the following listing. Details about each command include a description of the command, a list of help menus that contain the command, the proper syntax for entering the command, and definitions of parameters that may be included in the syntax. Note that the console commands are case insensitive.

?

Description:	This command produces a list of the most used common commands.
Help Menu(s):	Main, Common
Syntax:	?
Parameters:	None

MNETID

Description:	Use this command to set or display the Cresnet ID of the CLS-C6RF as a slave device.
Help Menu(s):	System, Common
Syntax:	MNETID <ID> MNETID
Parameters:	<03...20> to set the ID none to display the current ID

GETCONFIG

Description:	Use this command to get project file information from the CLS-C6RF.
Help Menu(s):	File
Syntax:	GETCONFIG PROJECT
Parameters:	PROJECT to get the project file from iLux

GREENLEDLEVEL

Description:	Use this command to display or set the green LED level on the CLS-C6RF.*
Help Menu(s):	Device
Syntax:	GREENLEDLEVEL <0..100> set the green leds brightness to level <0..100> GREENLEDLEVEL display the green leds brightness level <0..100>
Parameters:	<0...000> - to set the green LED brightness level None – to display the current green LED brightness

*Refer to “LED Brightness” on page 26 for details.

HELP

Description:	Use this command to display a list of help categories.
Help Menu(s):	Main, Common
Syntax:	HELP HELP ALL HELP [CATEGORY] - show list of commands in category
Parameters:	ALL - to display a list of all commands CATEGORY - to show a list of commands in that category None - to display a list of all categories

INFO

Description:	Use this command to display additional device information.*
Help Menu(s):	Common, System
Syntax:	INFO
Parameters:	None

*For example, this command would produce information similar to the following:

```
Application version : 1.01.02
Loader version      : 1.16.00
Config data version : 1.1
User data version   : 1.0
```

IR

Description:	Use this command to display or enable/disable IR reception.*
Help Menu(s):	Device
Syntax:	IR <ENABLE...DISABLE>
Parameters:	ENABLE to enable the IR receiver DISABLE to disable the IR receiver None to display the current state

*Refer to “IR Reception” on page 25 for details.

PROJECTINFO

Description:	Use this command to display the project file name, the date and time it was compiled, version and change flags.*
Help Menu(s):	Device
Syntax:	PROJECTINFO
Parameters:	None

*For example, this command would produce information similar to the following:

```
Project file name : Conference Room.ilx
Date              : 9/9/05
Time              : 3:13:21 PM
Config data version : 1.1
User data version   : 1.0
Change flags       : 00000000
```


PUTCONFIG*

Description:	Use this command to load the project file to the CLS-C6RF
Help Menu(s):	File
Syntax:	PUTCONFIG PROJECT
Parameters:	PROJECT – The only valid parameter value

REBOOT

Description:	Use this command to reboot the CLS-C6RF
Help Menu(s):	Common
Syntax:	REBOOT
Parameters:	None

REPORTCRESNET

Description:	Use this command to report devices on the local network
Help Menu(s):	Common
Syntax:	REPORTCRESNET <ID> REPORTCRESNET ALL
Parameters:	<03...FE> to identify a specific device ALL – To show all devices on the network

RESTORE

Description:	Use this command to set all project configuration and parameters to the factory default settings.
Help Menu(s):	System
Syntax:	RESTORE ALL
Parameters:	ALL the only valid value for this parameter

RFCHANNEL*

Description:	Display RF Channel
Help Menu(s):	File
Syntax:	RFCHANNEL
Parameters:	display RF Channel <CH AUTO DISABLE> set to fix channel <11..26>, auto channel, or disable rf

SYSTEM*

Description:	Use this command to load firmware to the CLS-C6RF.
Help Menu(s):	File
Syntax:	SYSTEM
Parameters:	None

UPLOAD*

Description:	Use this command to load firmware to the slave device on the local network.
Help Menu(s):	File
Syntax:	UPLOAD <ID> FIRMWARE
Parameters:	<03...FE> FIRMWARE – the only valid value for this parameter

VERSION

Description:	Use this command to display the firmware version number.*
Help Menu(s):	Common
Syntax:	VERSION
Parameters:	None

*For example, this command would produce information similar to the following:

```
CLS-C6MRF Lighting Controller with Motion [v1.00.04, #FFFD6899]
```

WHITELEDLEVEL

Description:	Use this command to display or set white LEDs brightness level*
Help Menu(s):	Device
Syntax:	WHITELEDLEVEL <SCENE SHIFT> <0..100> WHITELEDLEVEL
Parameters:	<0..100> set the scene, shift white leds brightness level <0..100> display the scene, shift white leds brightness level <0..100>

*Refer to “LED Brightness” on page 26 for details.

WHITELEDGLOWLEVEL

Description:	Use this command to display or set white LEDs glow brightness level*
Help Menu(s):	Device
Syntax:	WHITELEDGLOWLEVEL <nnn> WHITELEDGLOWLEVEL
Parameters:	<0 100> to set glow level none to display current glow level

Refer to “Glow Mode Brightness” on page 26 for details.

*These functions are typically done using Toolbox or iLux Designer menu commands.

Appendix C: Factory Default Values

ITEM	DEFAULT VALUE
All lighting load types.	Incandescent
All Low End limits	0%
All High End limits	100%
Function buttons	recall scenes 1-6
Up/Down button	lights (Last Scene Master).
Occupancy sensing	OFF scene on exit - disabled
	ON scene on entry - disabled
	Timeout = 30 minutes
Off scene	2 second fade, no shades. (lighting loads fixed at 0%)
On Scene	2 seconds fade, all 6 lighting loads to 100%, no shades.
Scene 1	2 seconds fade, all 6 lighting loads to 15%, no shades.
Scene 2	2 seconds fade, all 6 lighting loads to 30%, no shades.
Scene 3	2 seconds fade, all 6 lighting loads to 45%, no shades.
Scene 4	2 seconds fade, all 6 lighting loads to 60%, no shades.
Scene 5	2 seconds fade, all 6 lighting loads to 75%, no shades.
Scene 6	2 seconds fade, all 6 lighting loads to 90%, no shades.
Scene 7	2 seconds fade, all 6 lighting loads to 15%, no shades.
Scene 8	2 seconds fade, all 6 lighting loads to 30%, no shades.
Scene 9	2 seconds fade, all 6 lighting loads to 45%, no shades.
Scene 10	2 seconds fade, all 6 lighting loads to 60%, no shades.
Scene 11	2 seconds fade, all 6 lighting loads to 75%, no shades.
Scene 12	2 seconds fade, all 6 lighting loads to 90%, no shades.
Scene 13	2 seconds fade, all 6 lighting loads to 15%, no shades.
Scene 14	2 seconds fade, all 6 lighting loads to 30%, no shades.
Scene 15	2 seconds fade, all 6 lighting loads to 45%, no shades.
Scene front panel lockout	All scenes not locked out
Raise/Lower on scene recall buttons	Disabled
Shade jog time	0.05 sec
Shade max time	1 minute
Shade lockout time	1 sec.
Scene programming	Unlocked for all scenes.
Scene mastering	Disabled
Manual Fade Rate.	Set to five seconds (for full travel)
Green LED brightness level	63
White LED brightness level	70
White LED glow level	7

The MNET ID (default=1F) in the configuration memory will not be affected by the Fd function (unless configuration data is corrupt).

Appendix D: Button Functions

Following is a list of button functions, in table format, one function per table. Each table lists Behavior, LED Action, Applies to, Rocker behavior, and Notes. Some topics may not apply to certain button types; this is defined in the “Applies to” row.

There are four classes of buttons to be considered:

- **Standard Rocker:** the six function buttons on the front panel of the CLS-C6RF, while the CLS-C6RF is in *Standard* mode and the shift flag is not set.
- **Shifted Rocker:** the same physical buttons as the Standard Rocker, but are active when the shift flag is set.
- **Up/Down Rocker:** this is the vertical button on the face of the CLS-C6RF.
- **Remote Button:** the single-action (i.e. non-rocker) buttons located on remote keypads.

Function name	Recall Scene (off, on, 1-15)
Behavior	Fades specified lights to specified levels in the specified time. (Non-dim loads will switch at the beginning or end of the specified time, as determined by the Load Type option for each load.) Also, sends specified shades to specified positions, (the time is determined by the motor). Note that the off scene is special in that you cannot specify which lighting loads are affected, or what their target levels should be – all lighting loads go to full off (definitely causing air-gap relay to open). Fade time and shade behavior can still be specified.
LED action	Flash while lights are actively fading, Scene-interlocked* afterwards. (Note that for Recall Off Scene, LED will be on when all lights are off.) *LED will go on when scene is recalled. LED will remain on until another scene is recalled (or Lights_in_Scenex_Off is executed) which has overlapping lighting load or shade group programming. That is, a scene which affects at least one common lighting load or shade group.
Applies to	Standard Rocker, Shifted Rocker, Remote Button
Rocker behavior	If the “Enable Raise/Lower on Scene Recall Buttons” option is set in iLux Designer, the right and left rockers perform “Scene Raise” and “Scene Lower” functions if, and only if, the scene feedback LED for that button is lit. If the “Enable Raise/Lower on Scene Recall Buttons” option is not set, then the right, left, and center press all do the same thing.
Notes	The ON and OFF buttons always recall the On and Off Scene, respectively. The assigned functions cannot be changed.

Function name	Turn Off Scene Lights (on, 1-15)
Behavior	Same as Recall Scene button, except: a) All lights affected by the scene go to off level. b) Shades are not affected. Note that the list of unaffected lighting loads and the fade time are the same as for the Recall Scene function.
LED	Flash while lights are fading, off when fade is done.
Applies To	Remote Button
Rocker Behavior	N/A
Notes	N/A

Function name	Toggle Scene (on, 1-15)
Behavior	Alternates between “Recall Scene” and “Turn Off Scene Lights” actions for the specified scene. In determining which action should be executed, the CLS-C6RF will check the state of all lights programmed in the scene. If any light in the scene is on, this function will cause the lights to go off. If all lights in the scene are off, this function will recall the scene.
LED	Flash while lights are actively fading (either direction). On when any light in scene is on, while not fading.
Applies To	Standard Rocker, Shifted Rocker, Remote Button
Rocker Behavior	If the “Enable Raise/Lower on Scene Recall Buttons” option is set, then the right and left rockers perform “Scene Raise” and “Scene Lower” functions, whether or not scene feedback LED for that button is lit. To toggle the scene, center of button must be pressed. If the “Enable Raise/Lower on Scene Recall Buttons” option is not set, then the right, left, and center press all do the same thing.
Notes	Toggle function intended only for scenes that do not affect shades.

Function name	Raise Lighting Load (1-6)
Behavior	The specified lighting load will be raised as long as the button is held – it will stop when button released. Rate is the global ramp rate. If they hit the High End limit, the lights will stop at that point, but the bargraph display will continue to rise. If going up from OFF, lights will immediately go to the Low End limit, and the bargraph display will start rising from 0. When the display (i.e.: the internal ramp value) reaches the Low End limit, the light will start moving up in sync. For non-dim load, lights will immediately go to full on.
LED	On while button is pressed
Applies To	Remote Button
Rocker Behavior	N/A
Notes	This is same as pressing the right side of front panel function button when in <i>Lights Mode</i> .

Function name	Lower Lighting Load (1-6)
Behavior	Specified lighting load will be lowered as long as button is held – will stop when button is released. Rate is the global ramp rate. If loads hit the Low End limit, the bargraph will continue to go down, but lights will stay at Low End limit level until reach OFF – at which point they will turn off. If starting from above the High End limit, the bargraph will start to go down, but lights will stay at High End limit level until display reaches the High End limit – then the light and bargraph will start moving in sync. For non-dim load, lights will immediately go to full off.
LED	On while button is pressed
Applies To	Remote Button
Rocker Behavior	N/A
Notes	This is same as pressing the left side of front panel function button when in <i>Lights Mode</i> .

Function name	Raise/Lower Lighting Load (1-6)
Behavior	Pressing left side of button will act same as Lower Lighting Load. Pressing right side of button will act same as Raise Lighting Load.
LED	On while left or right button is pressed
Applies To	Shifted Rocker
Rocker Behavior	Described in Behavior
Notes	N/A

Function name	Master Raise Lighting Loads (Last Scene, All Lights, On scene, Scenes 1-15)
Behavior	Same as Raise Lighting Load, except acts on all dimmable Lighting Loads affected by specified scene. All lights will ramp at the same rate. Non-dim loads are not affected. Shades are not affected.
LED	On while button is pressed
Applies To	Standard Rocker, Shifted Rocker, Remote Button
Rocker Behavior	Left, right, and center all do the same thing.
Notes	N/A

Function name	Master Lower Lighting Loads (Last Scene, All Lights, On scene, Scenes 1-15)
Behavior	Same as Lower Lighting Load, except acts on all dimmable Lighting Loads affected by the specified scene. All lights will ramp at the same rate. Non-dim loads are not affected. Shades are not affected.
LED	On while button is pressed
Applies To	Standard Rocker, Shifted Rocker, Remote Button
Rocker Behavior	Left, right, and center all do the same thing.
Notes	N/A

Function name	Master Raise/Lower Lighting Loads (Last Scene, All Lights, On scene, Scenes 1-15)
Behavior	Pressing left side of button will act same as Master Lower Lighting Loads. Pressing right side of button will act same as Master Raise Lighting Loads. For up/down button: bottom button = left button => lower. top button = right button => raise.
LED	On while button is pressed
Applies To	Standard Rocker, Shifted Rocker, up/down (Last Scene and All Lights only)
Rocker Behavior	As specified under "Behavior"
Notes	N/A

Function name	Toggle-Dim Scene (on, 1-15)
Behavior	Similar to the "Toggle Scene" function, except that a maintained press of the button will cause the lights to enter "cycle-dim" mode. That is, all lights programmed in the specified scene will either raise or lower until the button is released. (Behavior is the same as Raise Scene function.) A subsequent maintained button press will cause the lights to dim in the opposite direction. If the button is "tapped" instead of held down, it will behave identically to the "Toggle Scene" function.
LED	On when any light in scene is on
Applies To	Remote Button
Rocker Behavior	N/A
Notes	This function intended for use only on scenes that do not affect shades.

Function name	Open Shades Full (All, Group 1-6)
Behavior	Sends the specified shades to Full Open position.
LED	On while button is pressed
Applies To	Remote Button
Rocker Behavior	N/A
Notes	Shade commands with "All" parameter will only affect all the shade groups connected to the given CLS-C6RF module. They will not pass from one CLS-C6RF module to another (either when directly connected or when linked through a Cresnet system). If you want to open all shades in a multi-unit system, define a scene to do that.

Function name	Close Shades Full (All, Group 1-6)
Behavior	Sends the specified shades to Full Closed position.
LED	On while button is pressed
Applies To	Remote Button
Rocker Behavior	N/A
Notes	Shade commands with "All" parameter will only affect all the shade groups connected to the given CLS-C6RF module. They will not pass from one CLS-C6RF module to the other (either when directly connected or when linked through Cresnet system). If you want to close all shades in a multi-unit system, define a scene to do that.

Function name	Stop Shades (All, Group 1-6)
Behavior	Stops the specified shades at current position.
LED	On while button is pressed
Applies To	Remote Button
Rocker Behavior	N/A
Notes	Shade commands with "All" parameter will only affect all the shade groups connected to the given CLS-C6RF module. They will not pass from one CLS-C6RF module to the other (either when directly connected or when linked through Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.

Function name	Open Shades Momentary (All, Group 1-6)
Behavior	Specified shades will move toward the Open position for as long as the button is pressed. Movement will stop when button is released.
LED	On while button is pressed
Applies To	Remote Button
Rocker Behavior	N/A
Notes	Shade commands with "All" parameter will only affect all the shade groups connected to the given CLS-C6RF module. They will not pass from one CLS-C6RF module to the other (either when directly connected or when linked through Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.

Function name	Close Shades Momentary (All, Group 1-6)
Behavior	Specified shades will move toward the Closed position for as long as the button is pressed. Movement will stop when button is released.
LED	On while button is pressed
Applies To	Remote Button
Rocker Behavior	N/A
Notes	Shade commands with "All" parameter will only affect all the shade groups connected to the given CLS-C6RF module. They will not pass from one CLS-C6RF module to the other (either when directly connected or when linked through Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.

Function name	Jog Shades Open (All, Group 1-6)
Behavior	Specified shades will move toward the Open position for the specified jog time, and then stop.
LED	On while button is pressed
Applies To	Remote Button
Rocker Behavior	N/A
Notes	Jog time defaults to 0.05 sec. Other values can be set in iLux Designer. Shade commands with "All" parameter will only affect all the shade groups connected to the given CLS-C6RF module. They will not pass from one CLS-C6RF module to the other (either when directly connected or when linked through Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.

Function name	Jog Shades Closed (All, Group 1-6)
Behavior	Specified shades will move toward the Closed position for the specified jog time, and then stop.
LED	On while button is pressed
Applies To	Remote Button
Rocker Behavior	N/A
Notes	Jog time defaults to 0.05 sec. Other values can be set in iLux Designer. Shade commands with "All" parameter will only affect all the shade groups connected to the given CLS-C6RF module. They will not pass from one CLS-C6RF module to the other (either when directly connected or when linked through Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.

Function name	Open Momentary/Open Full (All, Group 1-6)
Behavior	<p>A quick tap of the button will perform a "Full Open". A maintained press will perform a "Momentary Open" until the button is released.</p> <p>If the shade is already moving in the open direction, a tap will stop it: So, if you tap the button once, it will start moving to full open; then if you tap it again, it will stop.</p> <p>If the shade is moving in the close direction, a tap will send to full open. A longer press will do a "Momentary Open" until the button is released.</p>
LED	On while button is pressed
Applies To	Remote Button
Rocker Behavior	N/A
Notes	<p>When changing direction, there may be a short time when the shade is stopped before it starts moving in the opposite direction. This is the "lockout time" for the shade controllers. This time is fixed for the C2N-SSC shades; it can be changed for the SDC and SDC-DC controllers via iLux Designer.</p> <p>Shade commands with "All" parameter will only affect all the shade groups connected to the given CLS-C6RF module. They will not pass from one CLS-C6RF module to the other (either when directly connected or when linked through Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.</p>

Function name	Close Momentary/Close Full (All, Group 1-6)
Behavior	Same as "Open Momentary/Open Full Shade Group 1-6", except Close.
LED	On while button is pressed
Applies To	Remote Button
Rocker Behavior	N/A
Notes	Same as "Open Momentary/Open Full Shade Group 1-6."

Function name	Open/Stop/Close/Stop (All, Group 1-6)
Behavior	Function will alternate between the "Full Open", "Stop" and "Full Close" commands for the specified shade group(s) each time the button is pressed.
LED	On while button is pressed
Applies To	Standard Rocker, Shifted Rocker, Remote Button, up/down (All only)
Rocker Behavior	<p>Pressing center of the button will act same as non-rocker open/stop/close/stop. Pressing only one side of the button while stopped, will always send it in specified direction – rather than in opposite of last direction. Pressing any part of the button while shade is moving will stop it.</p> <p>For up/down button bottom button = left button => close. top button = right button => open.</p>
Notes	Shade commands with "All" parameter will only affect all the shade groups connected to the given CLS-C6RF module. They will not pass from one CLS-C6RF module to the other (either when directly connected or when linked through a Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.

Function name	External Function (1-32)
Behavior	Activates the corresponding “press” digital signal (press1 – press32 on the External Functions slot) on the Cresnet System connected to the CONTROL SYSTEM port. Signal will remain high for as long as the button is pressed.
LED	On when the corresponding “fb” digital signal (fb1 – fb32 on the External Functions slot) from the control system is high.
Applies To	Shifted Rocker, Remote Button
Rocker Behavior	Left, right, and both all do the same thing
Notes	Note that these should only be assigned to a CLS-C6RF unit that is directly connected to a Cresnet control system, or to keypads connected to that unit’s local devices network.

Function name	Dual External Function (1/2 ...31/32)
Behavior	Activates the corresponding “press” digital signal (press1 – press32 on the External Functions slot) on the Cresnet System connected to the CONTROL SYSTEM port. Signal will remain high for as long as the button is pressed. The left button corresponds to the lower number. The right button corresponds to the higher number.
LED	On if feedback for either join number is high, off if feedback for both join numbers is low.
Applies To	Shifted Rocker
Rocker Behavior	See “behavior” above
Notes	Note that these should only be assigned to CLS-C6RF unit that is directly connected to Cresnet control system. If assigned to unit that is connected to the local devices network of another CLS-C6RF unit, they will not function.

Function name	Shift
Behavior	If Shift function is assigned to the up/down button in iLux Designer, pressing this button will alternate between lower and upper functions for the six front panel function buttons
LED	N/A
Applies To	up/down
Rocker Behavior	Top, bottom, and both all do the same thing
Notes	N/A

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Crestron Electronics, Inc.
15 Volvo Drive Rockleigh, NJ 07647
Tel: 888.CRESTRON
Fax: 201.767.7576
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